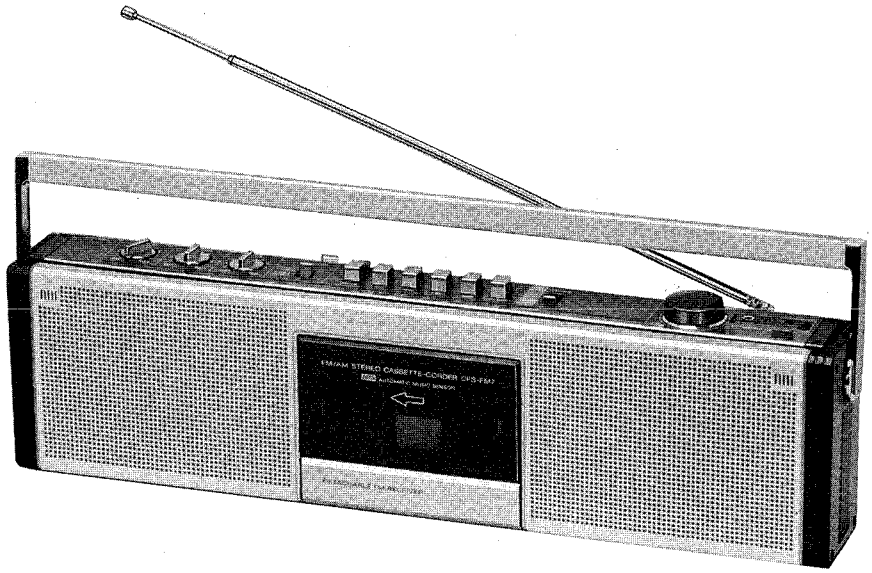
CFS-FM7

SERVICE MANUAL

US Model
AEP Model
UK Model



SPECIFICATIONS

Radio section

Frequency range	FM 87.5–108 MHz AM 530–1,605 kHz (566–187 m)
Antennas	FM: Telescopic antenna AM: Built-in ferrite bar antenna

Tape recorder section and general

Recording system	4-track 2-channel stereo or monaural
Fast winding time	Approx. 1 min. 30 sec. with Sony cassette C-60
Frequency response	TYPE I (normal) cassette 50–10,000 Hz TYPE II (CrO_2) cassette 50–12,000 Hz
Speakers	Two approx. 10 cm (4 inches) dia.
Power output	US model: 1 W x 2 (at 10 % harmonic distortion) in dc operation AEP, UK model: 2 W x 2 (at 10 % harmonic distortion) at dc operation
Inputs	External microphone input jack (stereo minijack) sensitivity 0.87 mV (–59 dB) for low impedance microphone Mixing microphone input jack (minijack) sensitivity 1.9 mV (–52 dB) for low impedance microphone
Output	Headphone jack (stereo minijack) for 8–32-ohm impedance headphones
Power requirements	9 V dc, six batteries size C (IEC designation R14) DC IN 9V jack accepts: AC-190 ac power adaptor supplied with US model, for use on 120 V ac, 60 Hz AC-230A ac power adaptor supplied with UK model, for use on 240 V ac, 50 Hz AC-230A ac power adaptor supplied with AEP model, for use on 220 V ac, 50 Hz DCC-120 car battery cord (optional) for use on 12 V car battery DCC-240 car battery cord (optional) for use on 24 V car battery

— Continued on page 2 —

Tape Transport Mechanism Type	MF-FM7-75

0dB = 0.775V (AF)
0dB = 1μV (RF)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

FM-AM STEREO CASSETTE-CORDER

SONY®

MICROFILM

TC

Battery life	When recording FM programs: Approx. 4 hours using Eveready No. 1235 Heavy Duty batteries (Sony SUM-2 (NS) New Super Batteries) Approx. 8 hours using Eveready No. E93 Alkaline batteries (Sony Eveready AM2 Alkaline batteries)
Dimensions	Approx. 453 × 132 × 89 mm (w/h/d) ($17^{7}/_{8} \times 5^{1}/_{4} \times 3^{5}/_{8}$ inches) incl. projecting parts and controls not incl. handle Approx. 440 × 119 × 73 mm (w/h/d) ($17^{3}/_{8} \times 4^{3}/_{4} \times 2^{7}/_{8}$ inches) not incl. projecting parts and controls
Weight	Approx. 2.2 kg (4 lb 13.6 oz) incl. batteries not incl. FM stereo receiver

FM stereo receiver

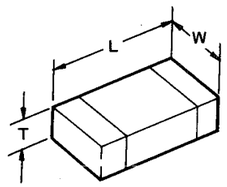
Frequency range	87.5–108 MHz
Antenna	Stereo earphone cord antenna
Output	Stereo earphone jack (stereo minijack)
Power output	20 mW × 2 (at 10% harmonic distortion) using 18-ohm headphones
Battery life	Approx. 5 hours with Sony UM-4(U) Ultra Super batteries Approx. 10 hours with Eveready No. E92 Alkaline batteries (Sony Eveready AM-4 Alkaline batteries)
Power requirements	3 V dc, 2 batteries size AAA (IEC designation R03)
Dimensions	Approx. 37.5 × 100 × 12 mm (w/h/d) ($1^{1}/_{2} \times 4 \times {}^{1}/_{2}$ inches) not incl. projecting parts and controls Approx. 39 × 100.5 × 12 mm (w/h/d) ($1^{9}/_{16} \times 4 \times {}^{1}/_{2}$ inches) incl. projecting parts and controls
Weight	Approx. 56 g (2 oz) incl. batteries

FEATURES

- A stereo cassette-corder combined with a high-quality FM/AM radio.
- Detachable FM stereo receiver to enjoy listening to FM programs using stereo earphones, anywhere, anytime.
- Automatic Music Sensor (AMS) system, for automatic playback from the beginning of the selection being played or the next selection on the tape.
- Record muting operation for creating blank intervals on the tape during recording, eliminating unwanted material.
- With the Sony variable level recording monitor system, a program to be recorded may be listened to at any desired sound volume and tone control settings without affecting the recording.
- Tape selector for high-quality sound reproduction using TYPE I (normal) and TYPE II (CrO_2) tapes.
- All-mode shut-off mechanism activates at the end of the tape in any operating mode.
- Mixing microphone jack for mixing the sound from an external microphone with other sound sources.
- Stereo minijacks for connecting headphones and an external microphone.
- Three different power sources—batteries, house current, and car battery.

Chip components

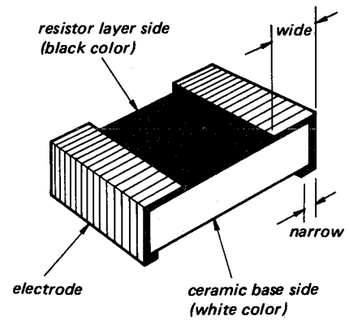
Chip components include resistors, capacitors, transistors, diodes, coil and adjustable resistors.
In this section, the types of resistors, ceramic capacitors, transistors and diodes which are used most frequently will be described.
Dimension of transistors and capacitors



(Unit: mm)

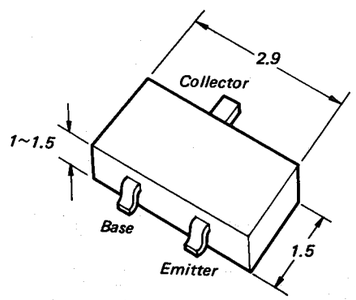
Type	L	W	T
3216	3.2	1.6	0.45 ~ 0.6
2125	2.0	1.25	0.35 ~ 0.5

Identification

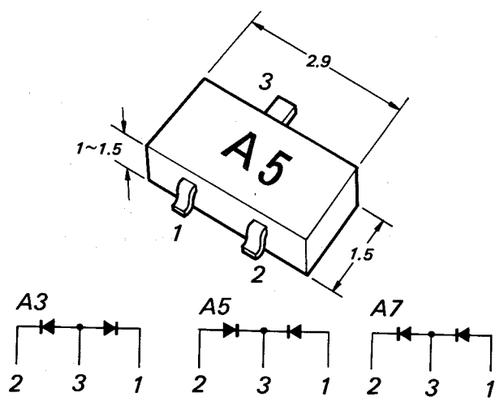


Resistor

Laminated Ceramic Capacitor



Transistor



Diode

Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

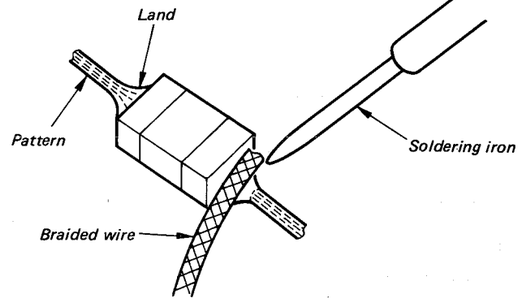
Precautions for replacement

1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ Removing chip components

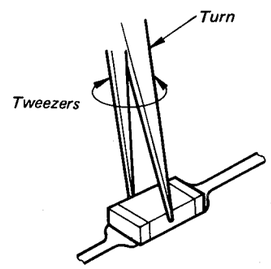
(1) Removing solder at electrode

Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.
Never re-use a disconnected chip component.



(3) Smoothing the soldered surface

After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ Connecting chip components

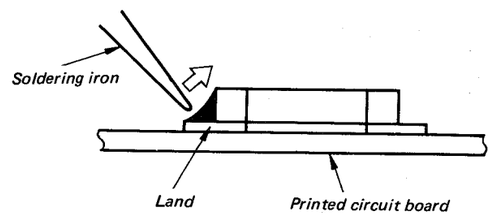
The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

(1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.

(2) Speedy soldering

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.

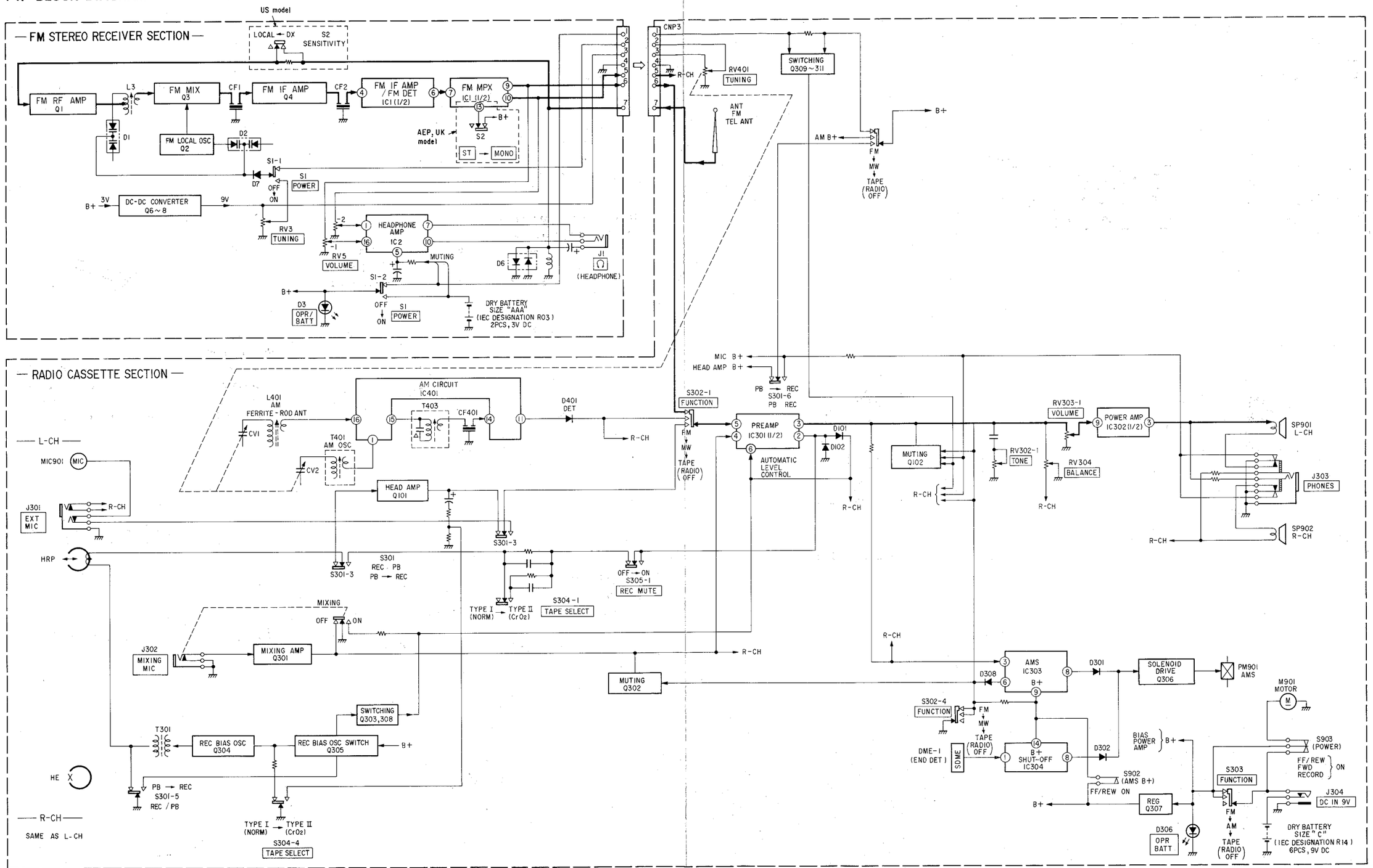


(3) Speedy soldering of electrode on the other side

Solder the electrode on the other side in the same way as in (2) above.

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM

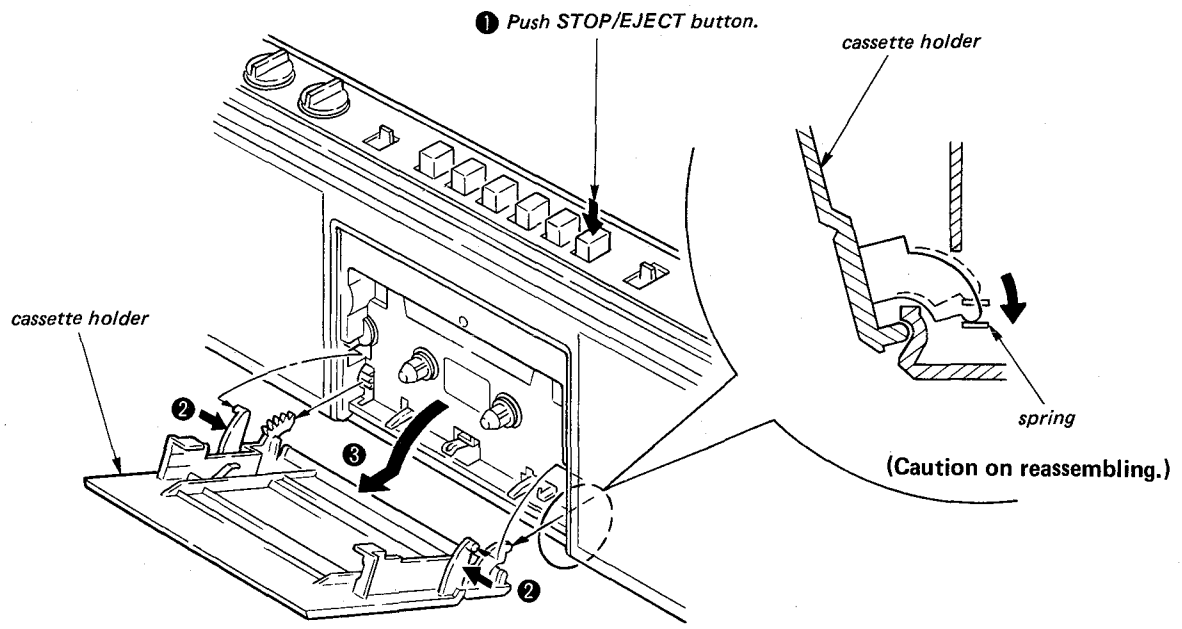


SECTION 2
DISASSEMBLY

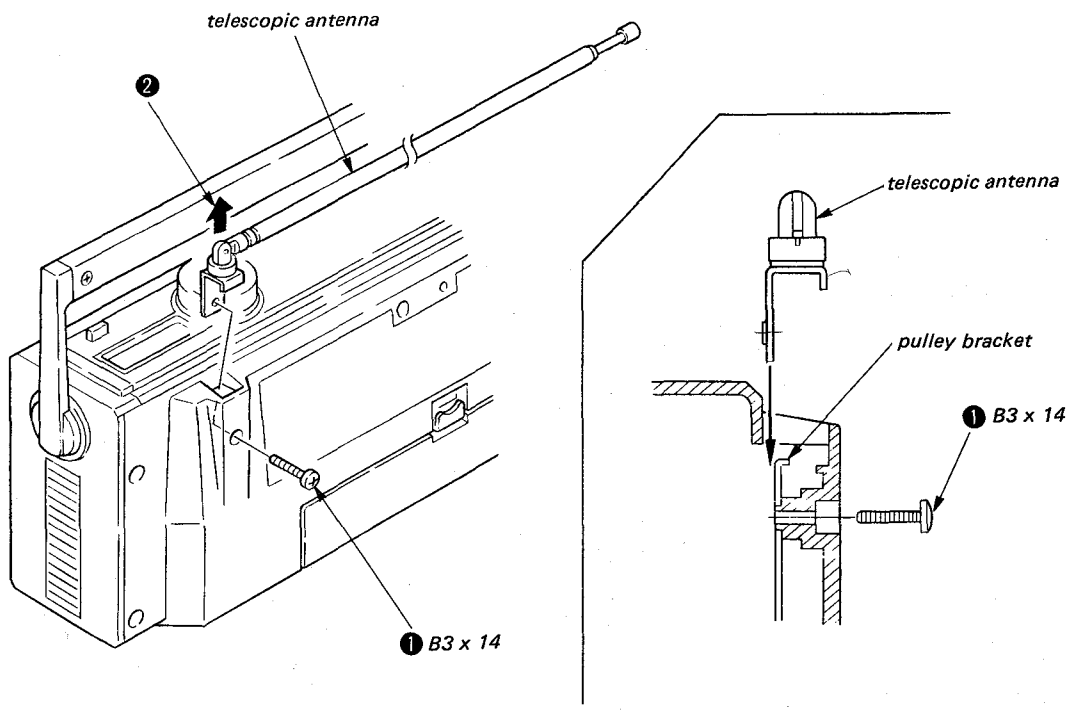
2-1. RADIO CASSETTE SECTION

Note: Follow the disassembly procedure in the numerical order given.

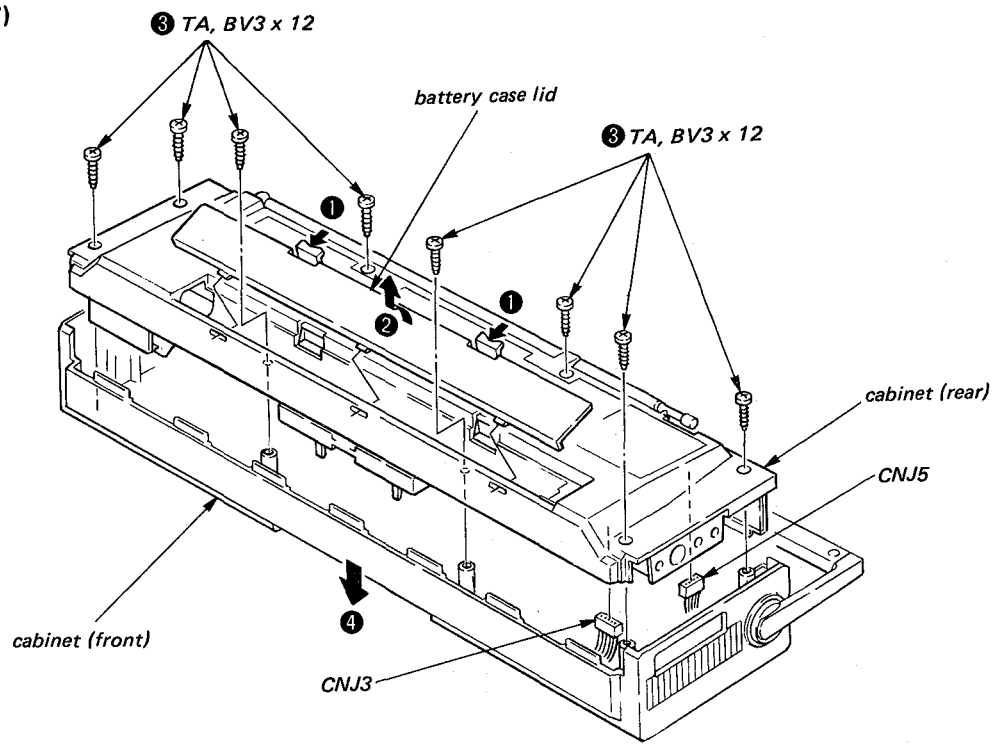
CASSETTE HOLDER



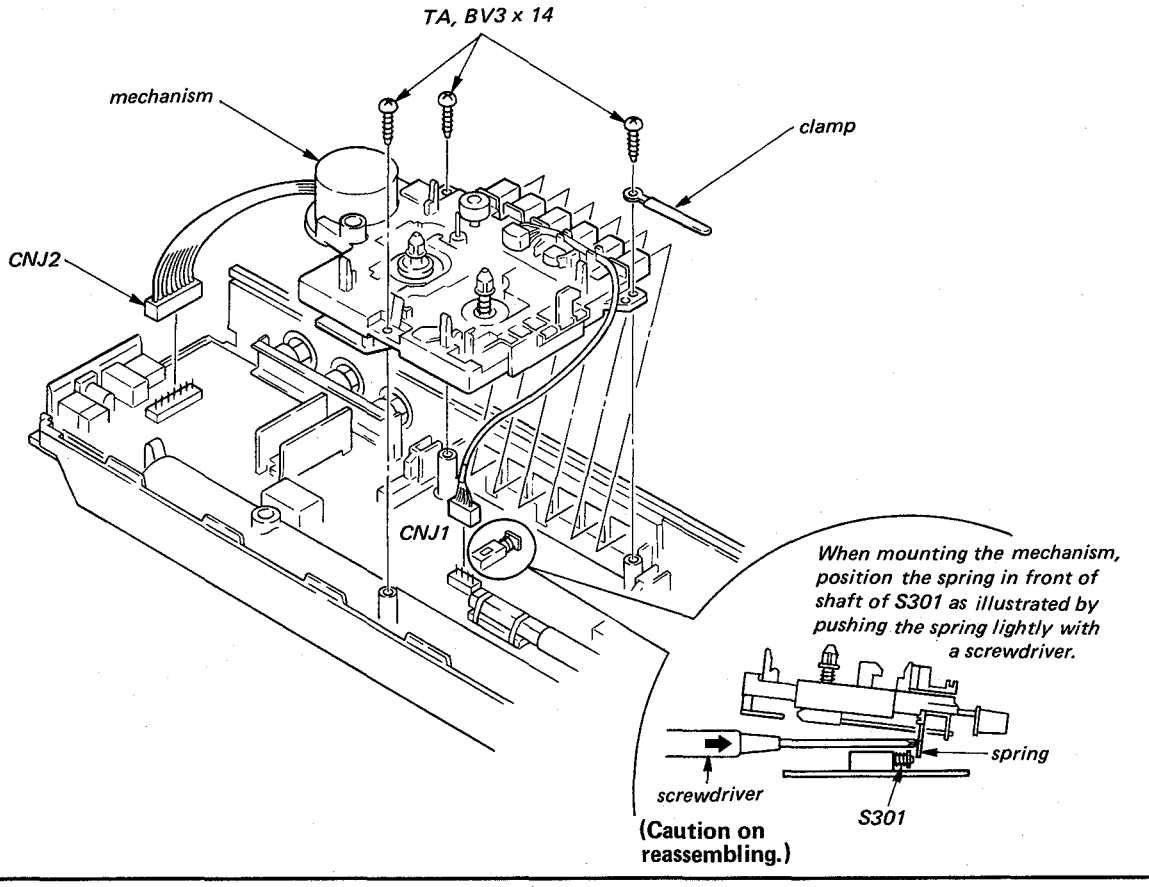
TELESCOPIC ANTENNA



CABINET (FRONT)



MECHANISM



MAIN BOARD

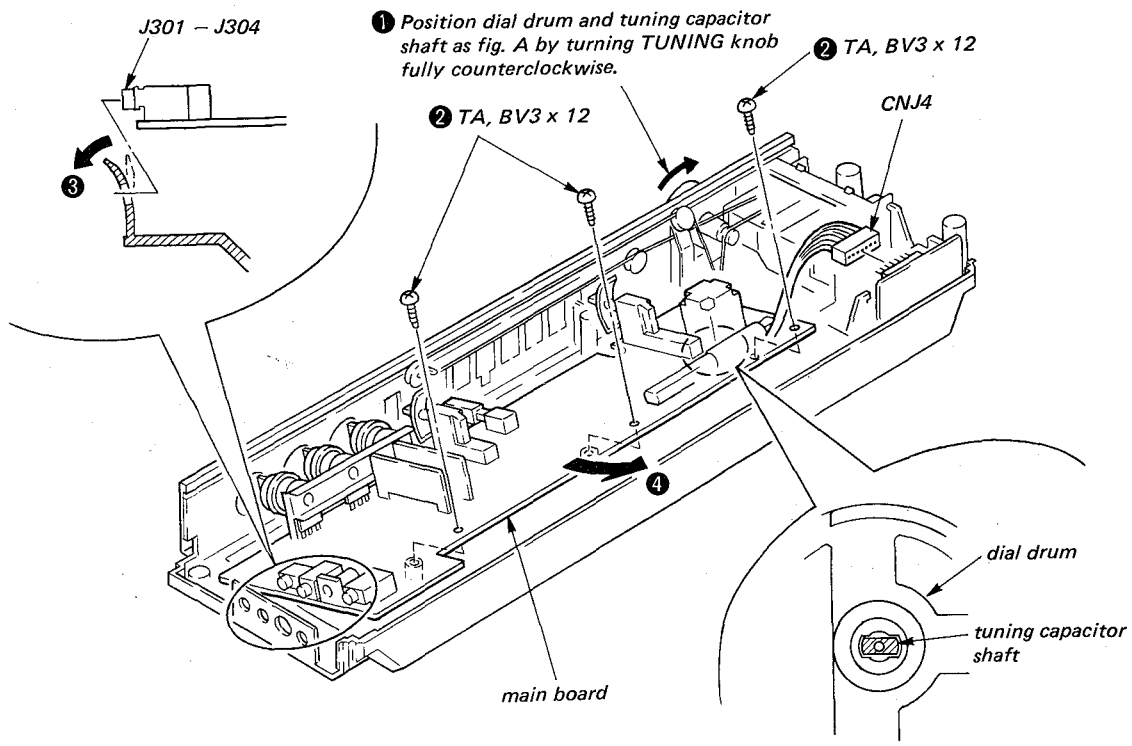
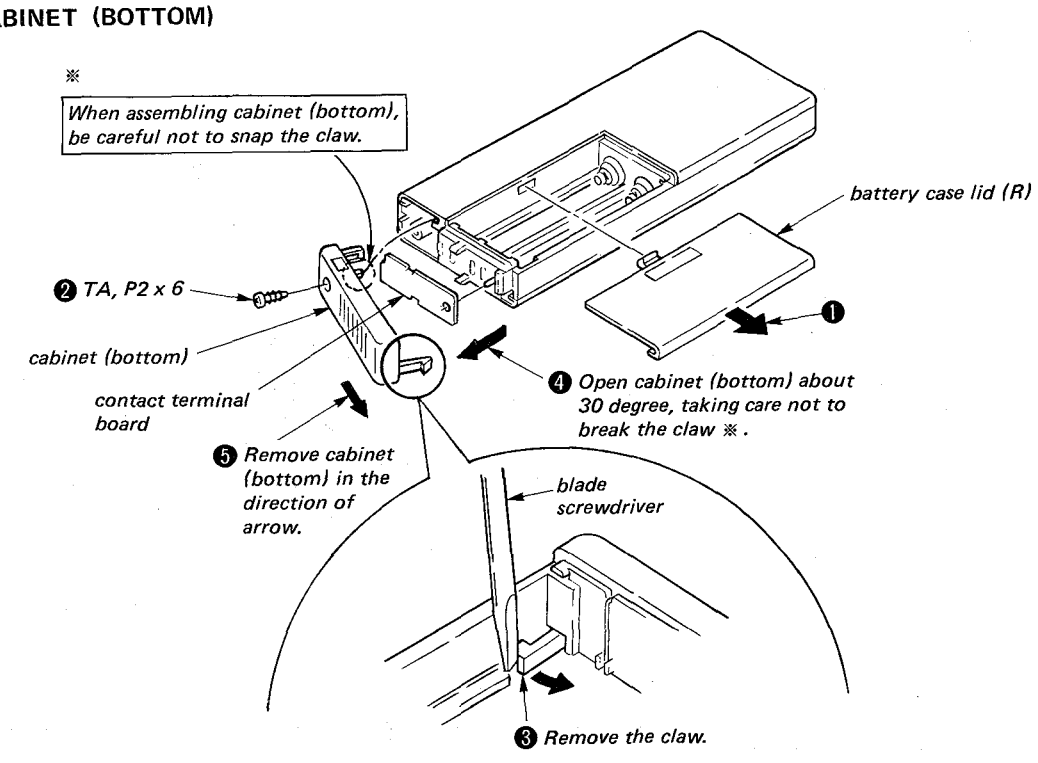

J301 – J304
❶ Position dial drum and tuning capacitor shaft as fig. A by turning TUNING knob fully counterclockwise.
❷ TA, BV3 x 12
❷ TA, BV3 x 12
CNJ4
❸
❹
dial drum
tuning capacitor shaft
main board

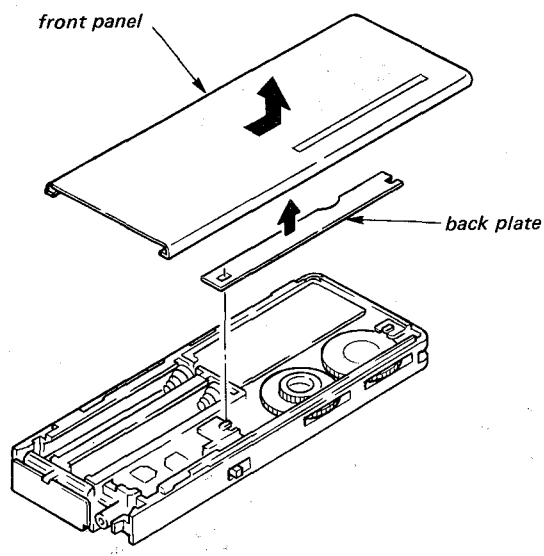
Fig. A

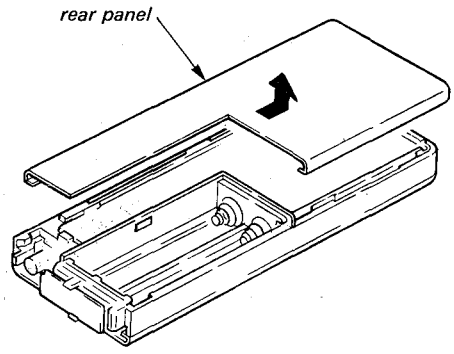
2-2. FM STEREO RECEIVER SECTION

CABINET (BOTTOM)

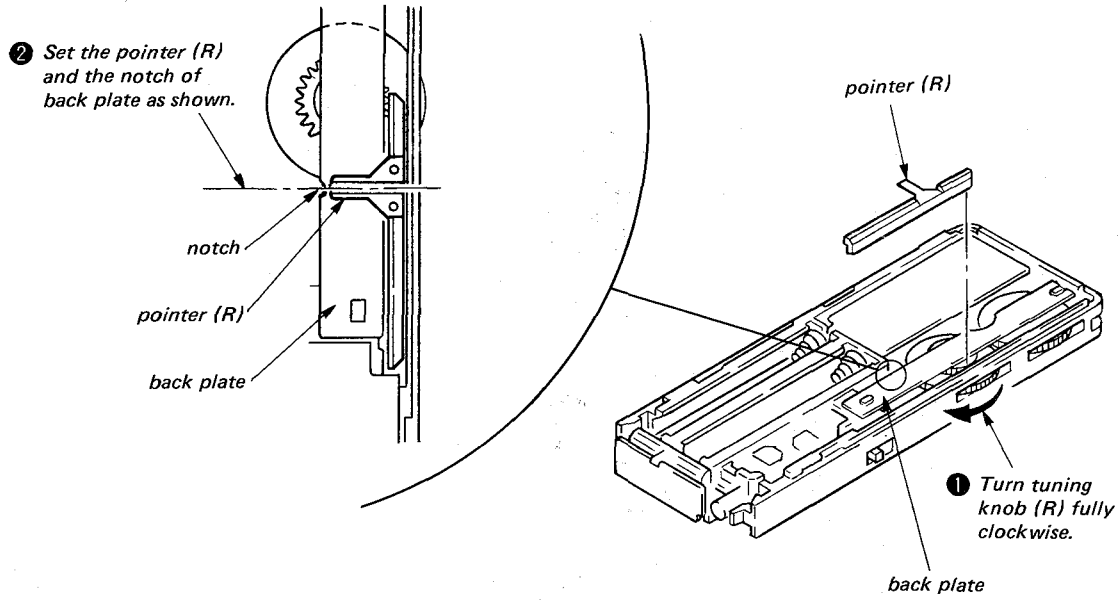

※
When assembling cabinet (bottom), be careful not to snap the claw.
battery case lid (R)
❷ TA, P2 x 6
❶
cabinet (bottom)
contact terminal board
❹ Open cabinet (bottom) about 30 degree, taking care not to break the claw ※.
❺ Remove cabinet (bottom) in the direction of arrow.
blade screwdriver
❸ Remove the claw.

FRONT PANEL/BACK PLATE/REAR PANEL



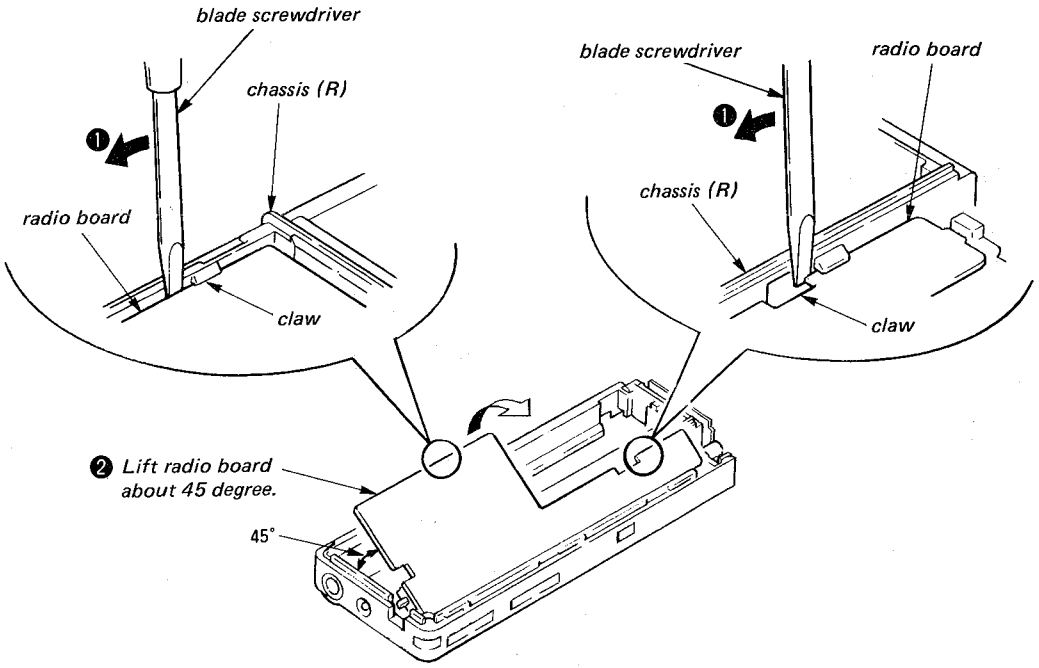


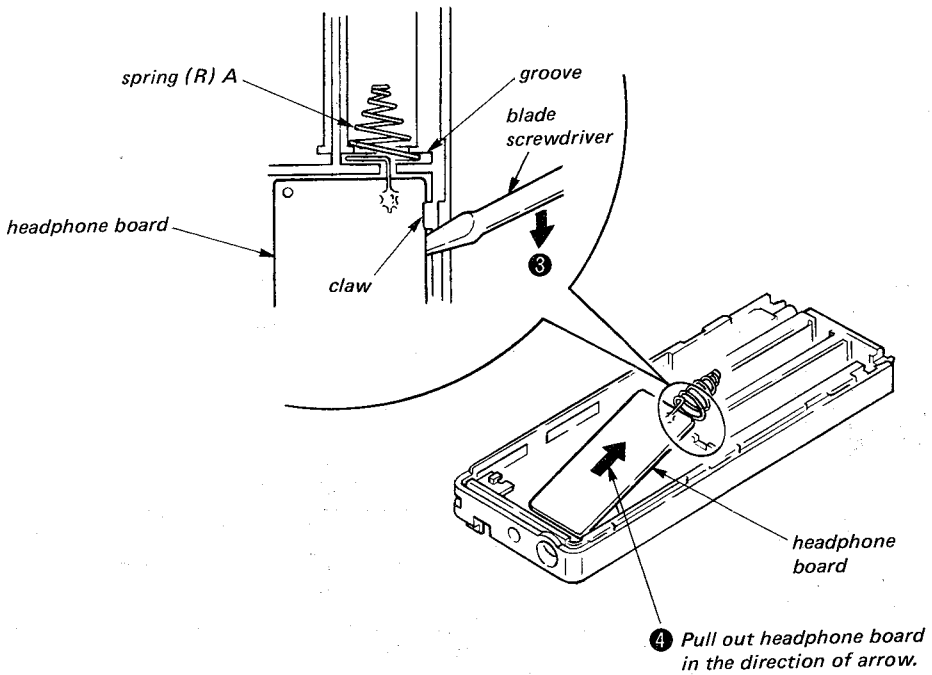
POINTER (R) SETTING


❷ Set the pointer (R) and the notch of back plate as shown.
notch
pointer (R)
back plate
pointer (R)
❶ Turn tuning knob (R) fully clockwise.
back plate

HEADPHONE BOARD

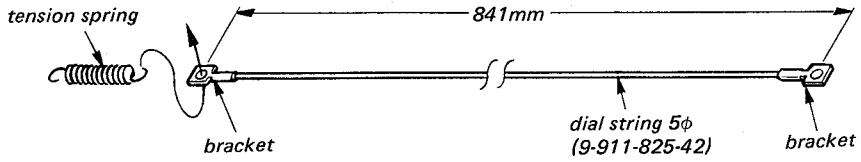
After removing the headphone board, the checking or part replacement on the component side of the radio board can be made.





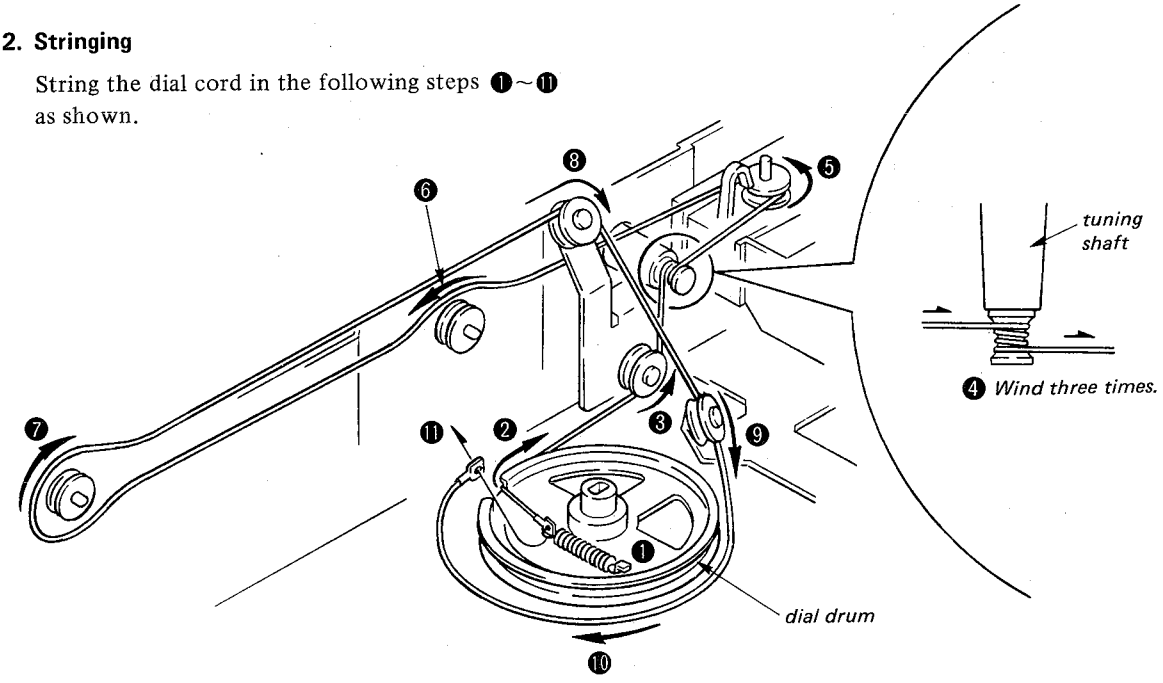
2-3. DIAL CORD STRINGING

1. Preparation

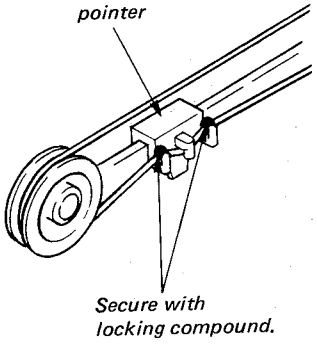


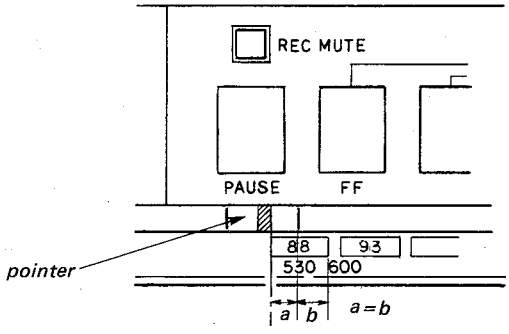
2. Stringing

String the dial cord in the following steps ❶~⓫ as shown.



3. Pointer Setting





Set the pointer as shown above by turning TUNING knob fully counterclockwise.

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

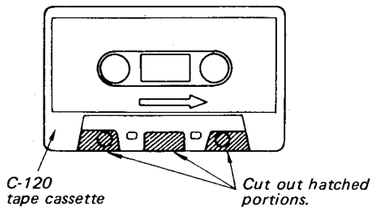
Torque	Torque meter	Meter reading
Forward	CQ-102C	25 – 50 g·cm (0.35 – 0.69 oz·inch)
Fast Forward and Rewind	CQ-201B	85 – 120 g·cm (1.19 – 1.66 oz·inch)
Back Tension	CQ-102C	2.5 – 5 g·cm (0.04 – 0.07 oz·inch)

Tape Tension Measurement

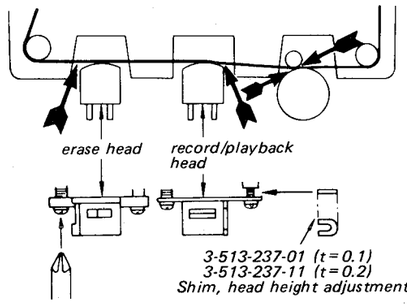
Meter	Meter reading
CQ-403	more than 170 g (more than 5.99 oz)

Head Height Adjustment

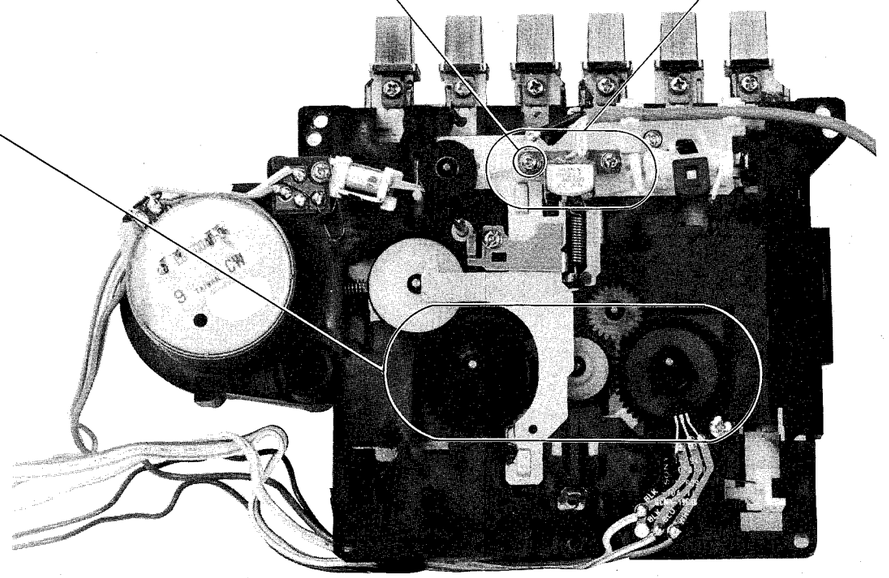
1. Prepare an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions of arrow.



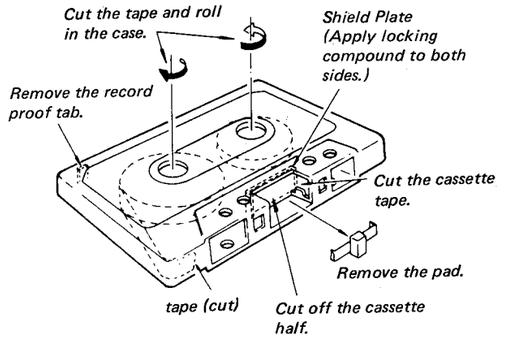
3-513-237-01 (t = 0.1)
3-513-237-11 (t = 0.2)
Shim, head height adjustment

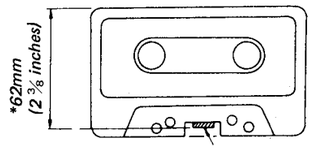


REC/PB Head Installation and Position Adjustment

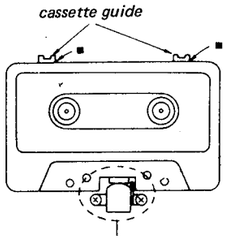
- This adjustment is necessary for the CUE detection of AMS.

1. Cassette Tape Preparation


Cut the tape and roll in the case.
Shield Plate (Apply locking compound to both sides.)
Remove the record proof tab.
Cut the cassette tape.
Remove the pad.
tape (cut)
Cut off the cassette half.



*Spacer (Prepare a suitable material and install it so that the distance marked by * is 62mm (2 3/8 inches) and apply locking compound.)*



2. Set the cassette tape into the set and install the head so that the edge of the head is in contact with the spacer when pressing the FWD button and FF button or the FWD button and REW button at the same time. (At this time, the portion marked by ■ is in contact with the cassette). Then, adjust the REC/PB Azimuth Adjustment and apply locking compound to an installation screw.

Flywheel Thrust Play Adjustment

– Playback Mode –

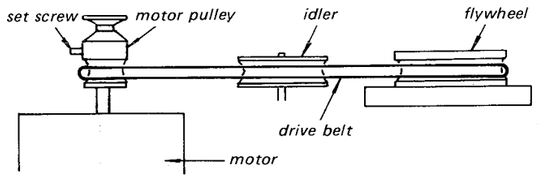
1. Turn the thrust screw counterclockwise until the screw tip leaves from the flywheel shaft.
2. Gradually turn the thrust screw clockwise to the position where the motor current suddenly increases.
3. Then, turn the thrust screw counterclockwise about ¼ turn from the position obtained in step 2.

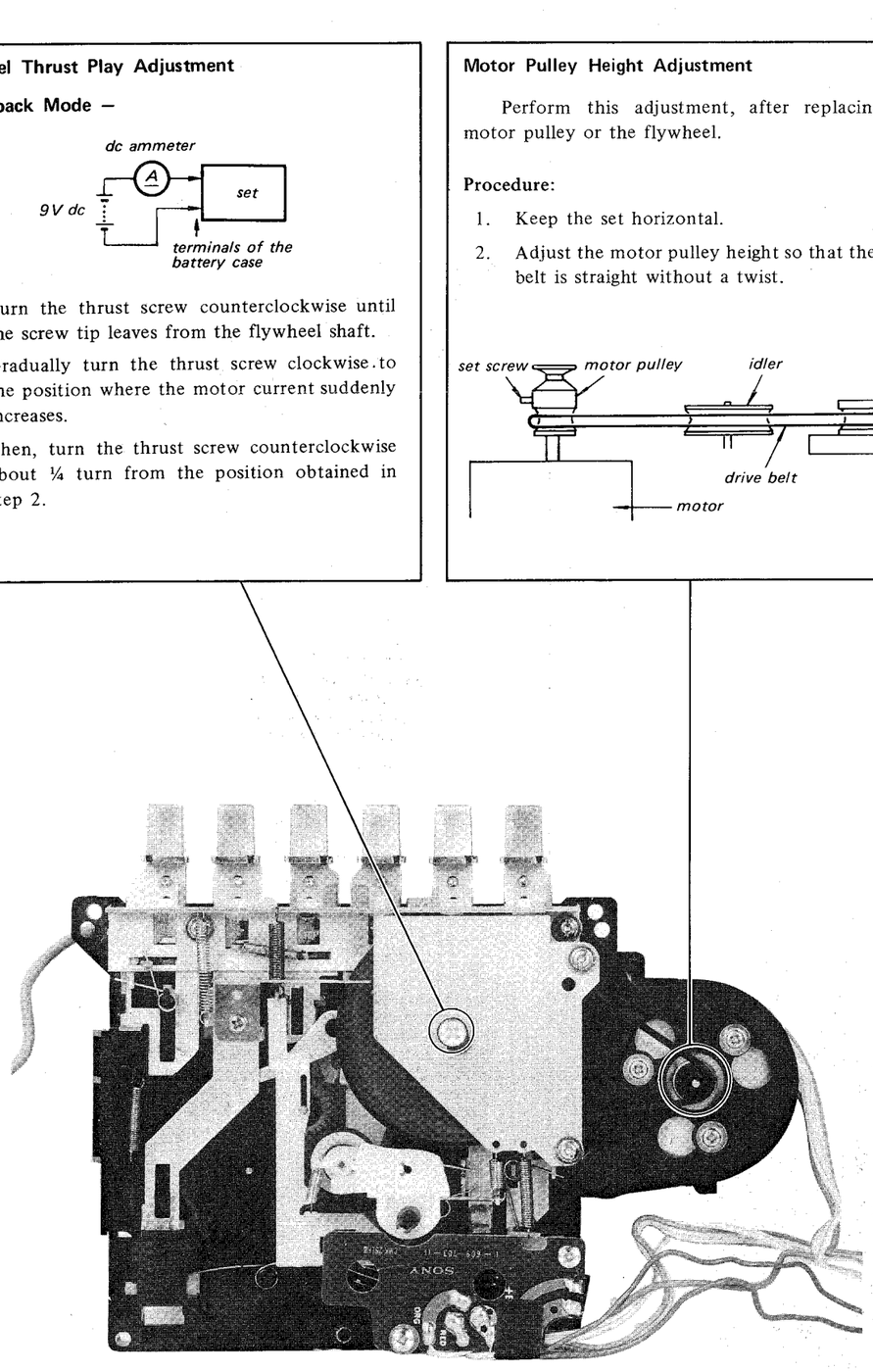
Motor Pulley Height Adjustment

Perform this adjustment, after replacing the motor pulley or the flywheel.

Procedure:

1. Keep the set horizontal.
2. Adjust the motor pulley height so that the drive belt is straight without a twist.





3-2. ELECTRICAL ADJUSTMENTS

CASSETTE SECTION

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Set the TAPE SELECT switch according to the tape as follows.

tape	TAPE SELECT switch
CS-15	TYPE I
CS-26	TYPE II

- Switches and controls should be set as follows unless otherwise specified.

FUNCTION: TAPE RADIO OFF
VOLUME: mechanical mid
TONE: HIGH
BALANCE: mechanical mid

- Standard Input Level

input terminal	EXT MIC	MIXING MIC
source impedance	300Ω	300Ω
input level	1.5mV (–54dB)	3.5mV (–47dB)

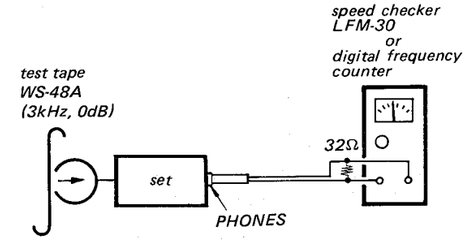
- Standard Output Level

output terminal	PHONES	speaker
load impedance	32Ω	3.2Ω
output level	0.25V (–10dB)	0.775V (0dB)

Tape Speed Adjustment

Procedure:

Mode: playback

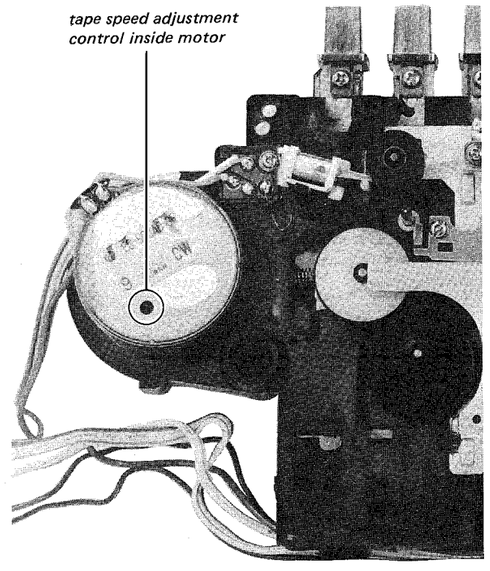


Specifications:

Speed checker	Digital frequency counter
–2.5 to +3%	2,925 – 3,090Hz

Frequency difference between the begining and the end of the tape should be within 1% (30Hz).

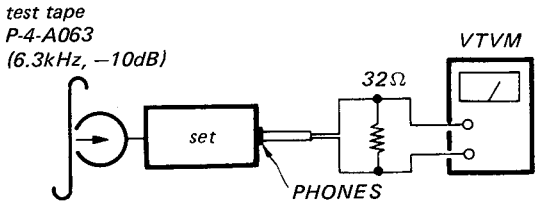
Adjustment Location:



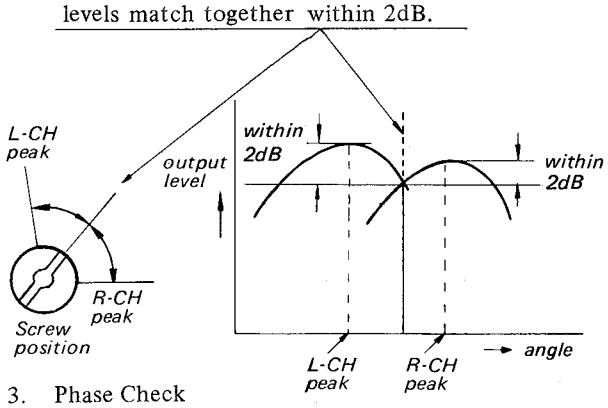
Record/playback Head Azimuth Adjustment

Procedure:

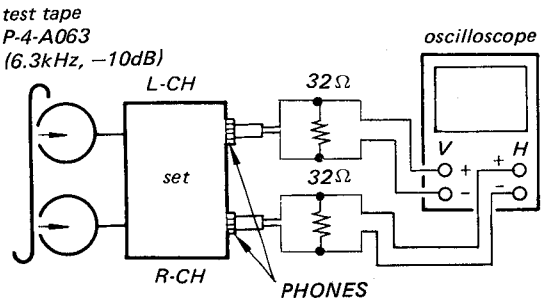
1. Mode: playback

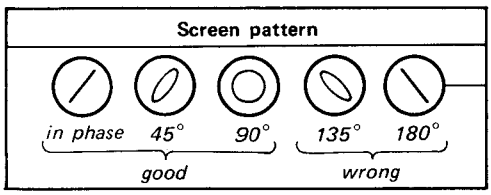


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 2dB.

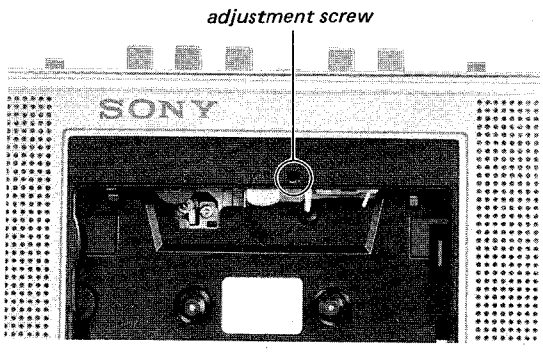


3. Phase Check
   Mode: playback





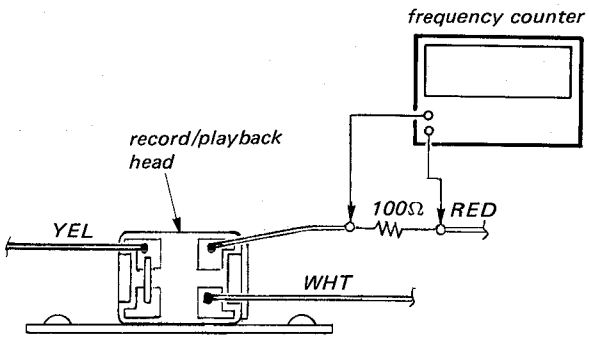
Adjustment Location:



Record Bias OSC Frequency Adjustment

Procedure:

1. Mode: record

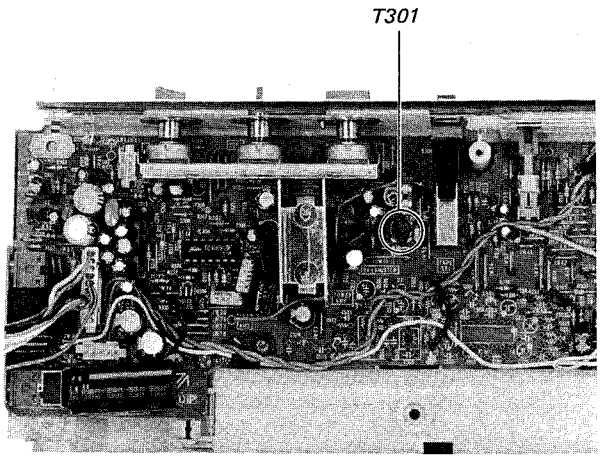


Connect a 100Ω resistor as above.

2. Adjust T301 for 52kHz±1kHz reading on the frequency counter.

Adjustment Location:

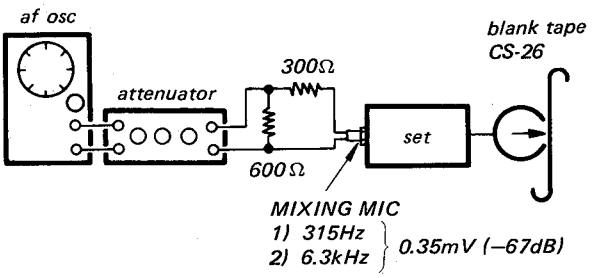
– main board –



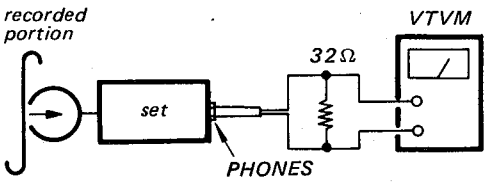
Record Bias Adjustment

Procedure:

1. Mode: record



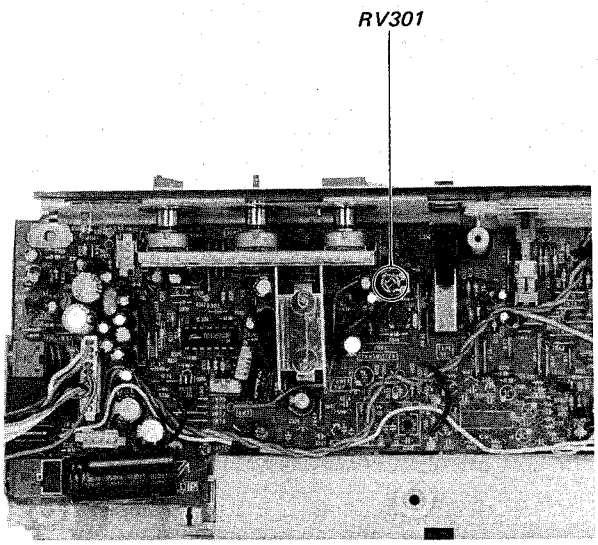
2. Mode: playback



Confirm that the 6.3kHz playback signal level is 2dB $^{+1}_{-2}$dB relative to the 315Hz signal. If necessary, adjust RV301 and repeat the steps given above.

Adjustment Location:

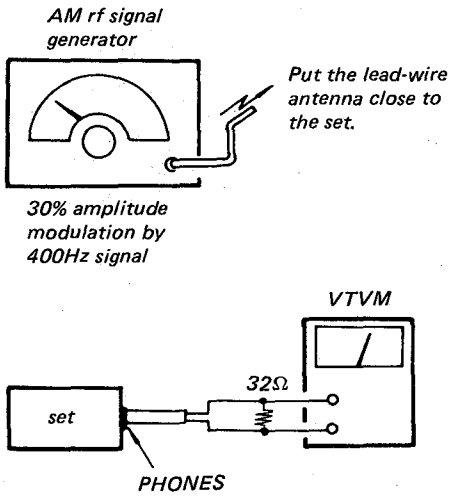
– main board –



RADIO SECTION

• RADIO CASSETTE SECTION

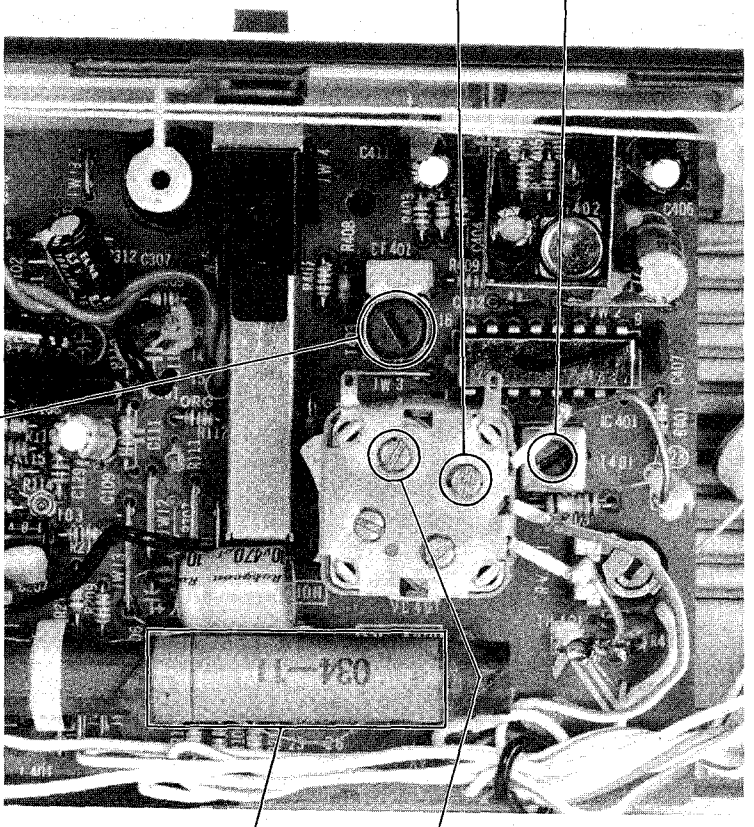
AM SECTION



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

1. AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM.	
455kHz	T403

2. AM FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a maximum reading on VTVM.		
dial pointer indication	f max	f min
frequency of the signal generator	1,680kHz	516kHz
adjustment parts	CT4	T401



L401	CT3
620kHz	1,400kHz
Adjust for a maximum reading on VTVM.	
3. AM TRACKING ADJUSTMENT	

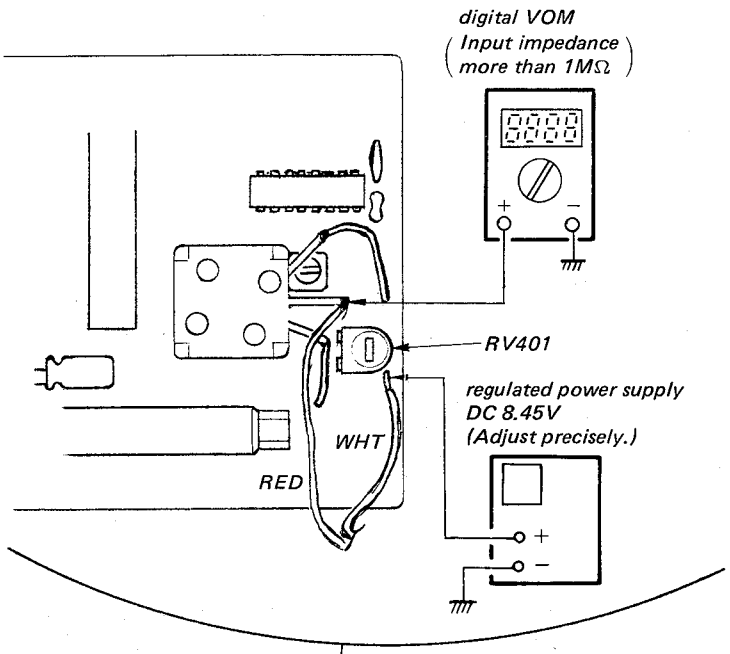
FM SECTION

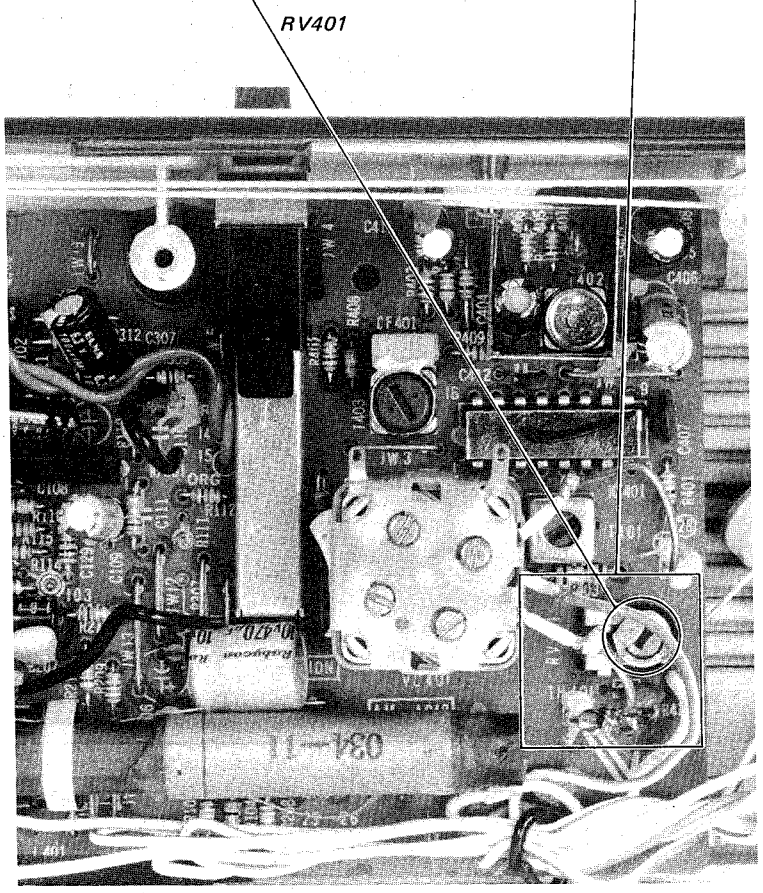
FM Tuning Voltage Adjustment

Adjustment Location:

– main board (component side) –

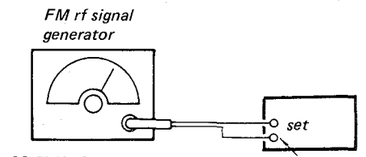
1. Turn TUNING knob fully counterclockwise.
2. Adjust RV401 for 3.90V±50mV reading on the digital VOM.

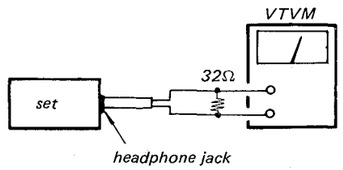




• FM STEREO RECEIVER SECTION

FM SECTION

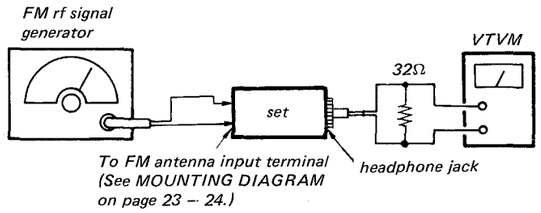

FM rf signal generator
set
22.5kHz frequency deviation by 400Hz signal
(modulation turned off for IF Alignment 2.)
To FM antenna input terminal Ⓐ.
(See MOUNTING DIAGRAM on page 23 – 24.)



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

2. FM IF Alignment (Discriminator Adjustment)

Procedure:



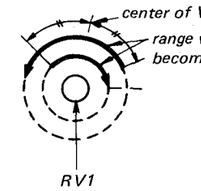
Carrier frequency: 98MHz
Modulation: 400Hz, ± 75kHz deviation (100%)
Output level: as low as posible

1. Tune the set to 98MHz.
2. Adjust signal generator frequency carefully for a maximum reading on VTVM.
3. Assume that the VTVM reading in step 2 is 0dB.
4. Increase signal generator frequency for –3dB against 0dB in step 3.
5. Note the frequency deviation $\Delta f1$ of signal generator.
6. Decrease signal generator frequency for –3dB against 0dB in step 3.
7. Note the frequency deviation $\Delta f2$ of signal generator.
8. Adjust T1 for $\Delta f1 \fallingdotseq \Delta f2$.

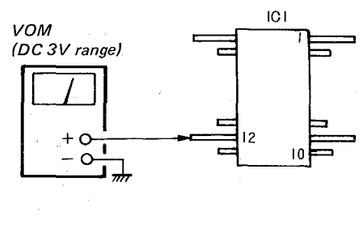
VCO Adjustment

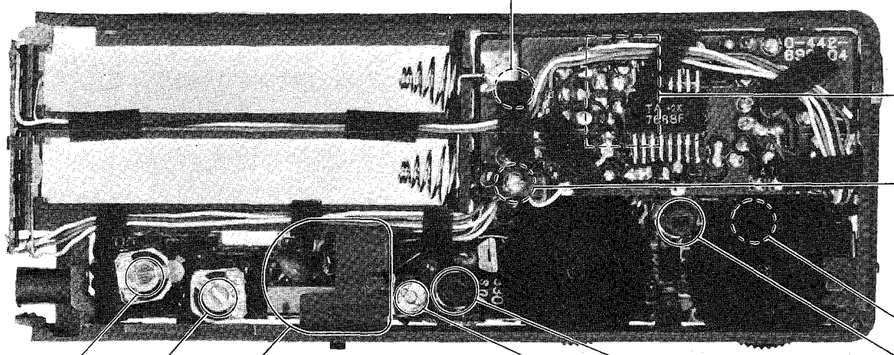
Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV1 clockwise or counterclockwise and memorize the VOM-reading range of "L" potential at the pin (12) of IC1.



reference level . . . H: 2.6V
L: 0.04V



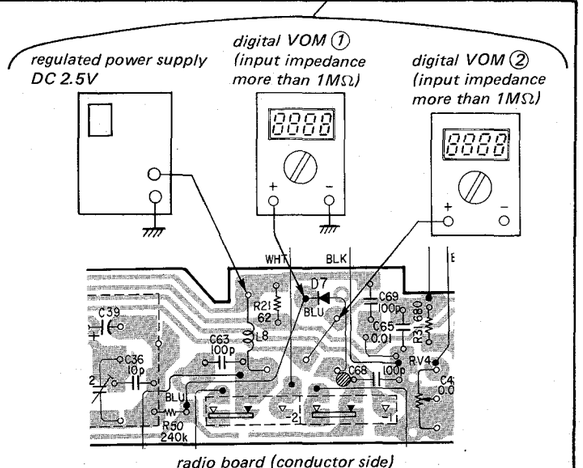


1. FM Tuning Voltage Adjustment

(Perform this adjustment before Frequency Coverage Adjustment and Tracking Adjustment.)

Procedure:

1. Adjust RV2 for 8.45V± 50mV reading on the digital VOM (1).
2. Turn TUNING knob fully downward (f min).
3. Adjust RV4 for 2.80V±50mV reading on the digital VOM (2).
4. Confirm that the reading on the digital VOM (1) does not change.



adjustment parts	CT2	L2
frequency of the signal generator	109.5MHz	86.5MHz
dial pointer indication	f max	f min
Adjust for a maximum reading on VTVM.		

3. FM FREQUENCY COVERAGE ADJUSTMENT
(Perform after FM Tuning Voltage Adjustment)

4. FM TRACKING ADJUSTMENT
(Perform after FM Tuning Voltage Adjustment)

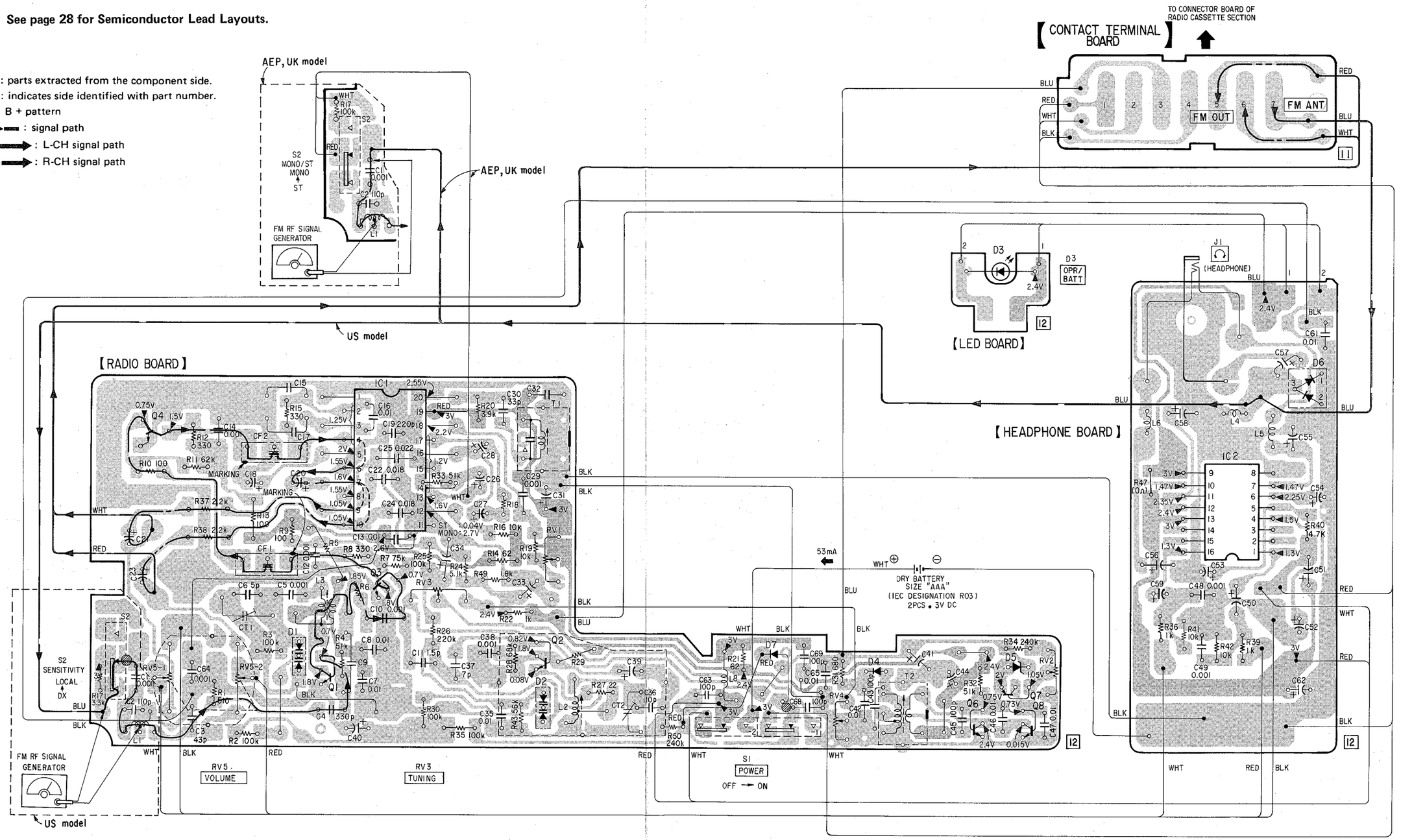
Adjust for a maximum reading on VTVM.

CT1	109.5MHz
L3	86.5MHz

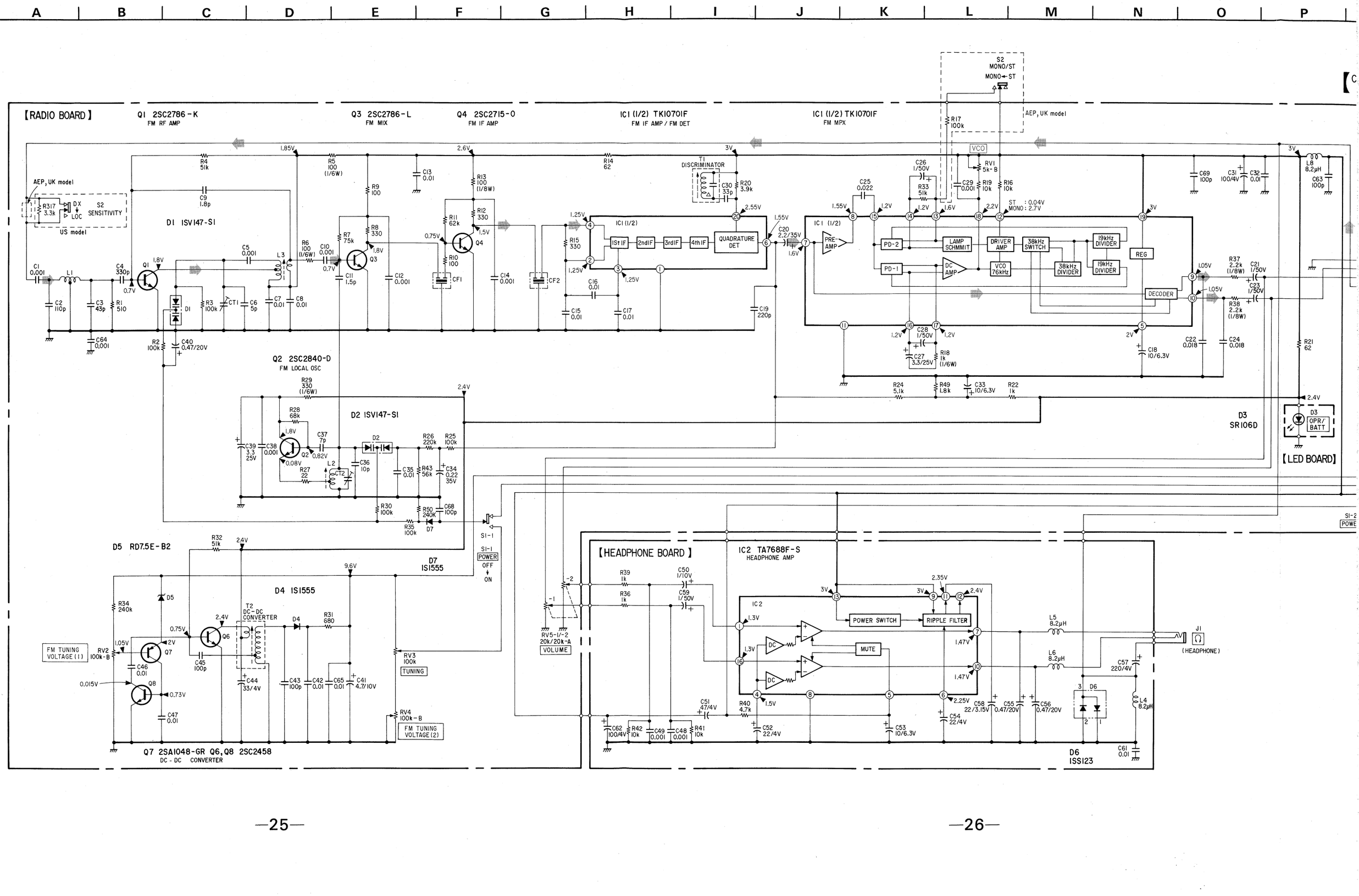
4-1. MOUNTING DIAGRAM — FM Stereo Receiver Section —

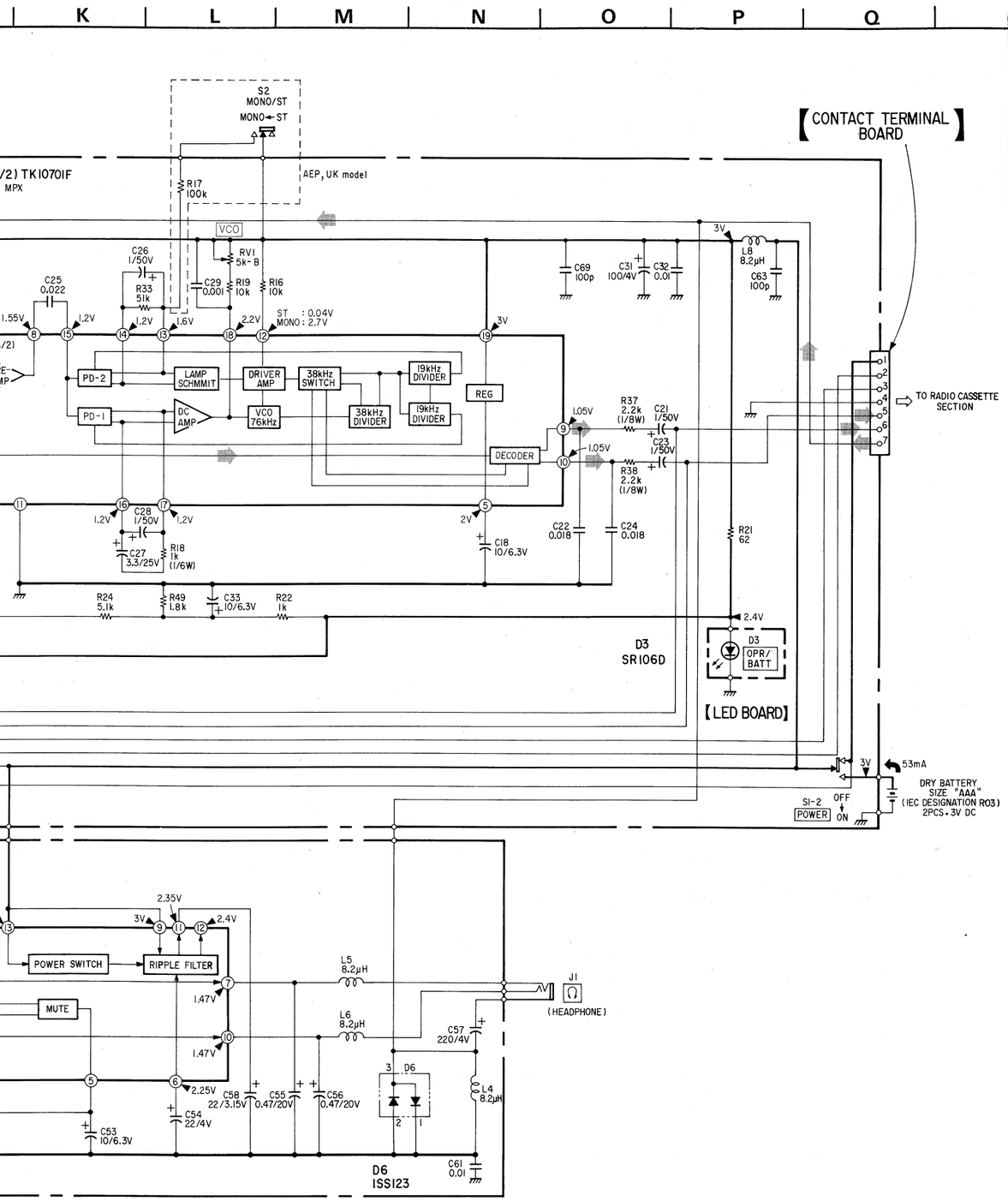
• See page 28 for Semiconductor Lead Layouts.

Note:
- ○— : parts extracted from the component side.
- [ ]— : indicates side identified with part number.
- ▒ : B + pattern
- ▬▶▬ : signal path
- ▬▶▬ : L-CH signal path
- ▬▶▬ : R-CH signal path



4-2. SCHEMATIC DIAGRAM — FM Stereo Receiver Section —





Note:

- All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/10W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——: B+ bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50kΩ/V).
  ST: STEREO
  MONO: MONO
- Voltage variations may be noted due to normal production tolerances.
- Switch

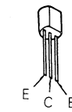
Ref. No.	Switch	Position
S1	POWER	OFF
S2	SENSITIVITY	DX

- ➡ : signal path

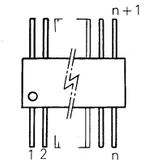
Note: Voltages are measured with a VOM (50kΩ/V).

- **Semiconductor Lead Layouts**

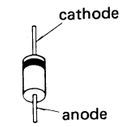
2SC945-P
2SC1345
2SC1364-8



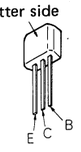
TK10600F



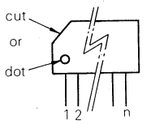
10E2
1S1555
1SS123
1T22AM
RD2.7E-L1
RD6.2E-B2
RD6.8E-B1
RD7.5E-B2



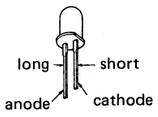
2SC2724
2SC2786-K
2SC2786-L



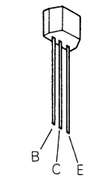
BA338
TA7328AP



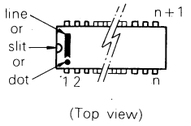
SR505D



2SA1048-GR
2SC2458
2SC2840-D
2SD1012

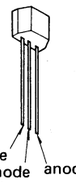


µPC1018C
NJM2035D
TA7688F-S
TC4069UBP

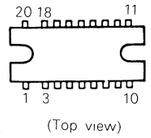


(Top view)

1SV147-S1

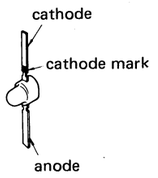


LA4125



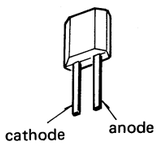
(Top view)

SR106D



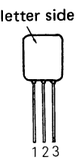
2SD773

SVC201SP-BG



2SK43-4

DM106A

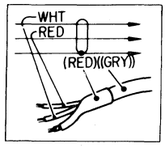


4-3. MOUNTING DIAGRAM — Radio Cassette Section —

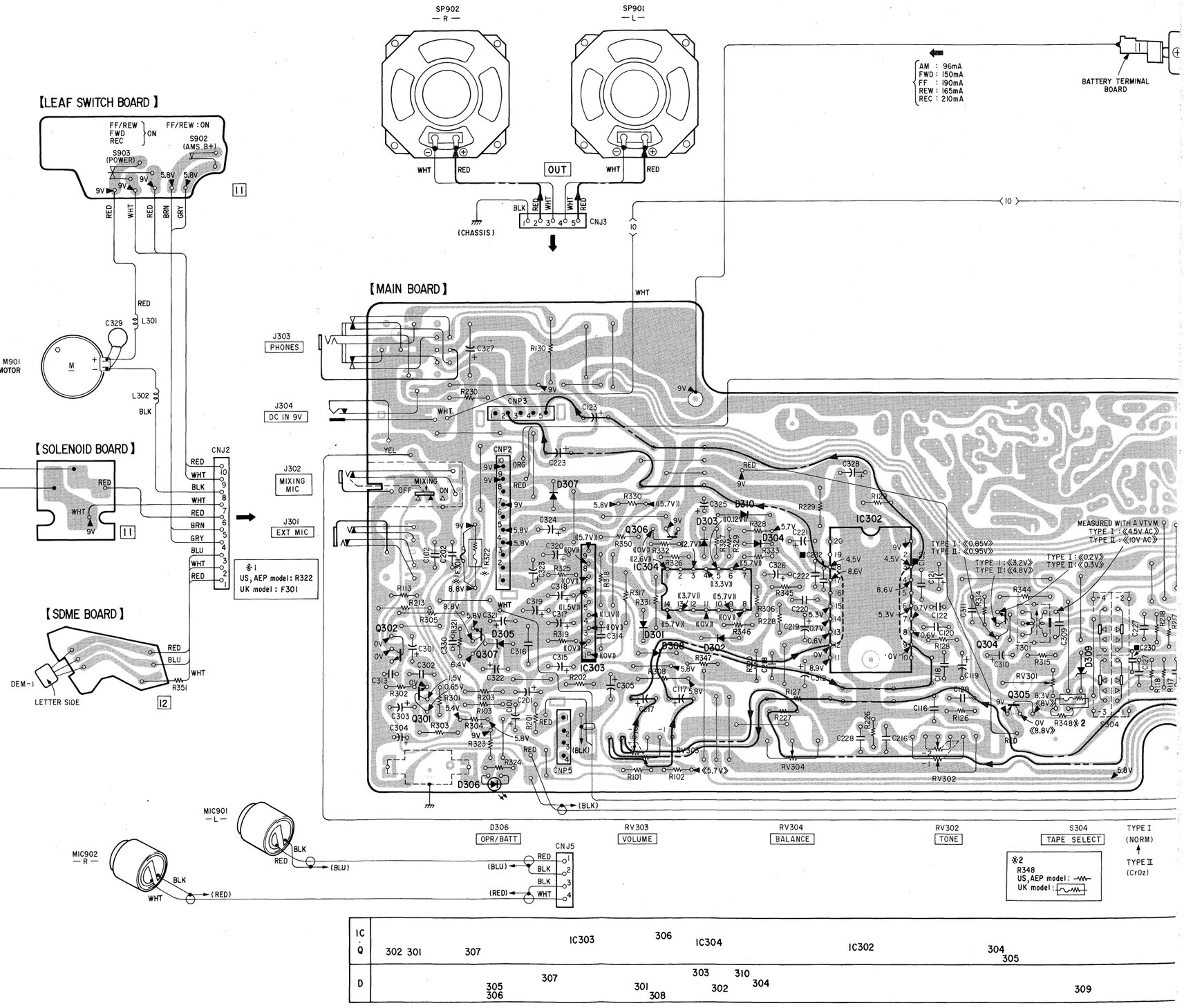
● See page 28 for Semiconductor Lead Layouts.

Note:

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- [ ]— : indicates side identified with part number.
- ▒▒ : B + pattern
- ▬▶▬ : signal path
- ▬▶▬ : L-CH signal path
- ▬▶▬ : R-CH signal path



IC・Q	302	301	307	IC303	306	IC304	IC302	304	305
D	305 306	307	301 308	303	310	302	304	309	

K L M N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10

SP901 —L—

OUT

WHT RED

BLK RED WHT WHT RED

CNJ3

AM : 96mA
FWD : 150mA
FF : 190mA
REW : 165mA
REC : 210mA

BATTERY TERMINAL BOARD

DRY BATTERY SIZE "C" (IEC DESIGNATION R14) 6PCS. 9V DC

SPRING

FROM CONTACT TERMINAL BOARD OF FM STEREO RECEIVER SECTION

【CONNECTOR BOARD】

CNP901 (5.8V)

FM ANT

CN4

ORG RED WHT BLU YEL BLK RED WHT

FM IN

12

HRP PP227-3602D

CNJ1

WHT BLK RED YEL (BLU) (BLU) BLK

ANT FM TEL ANT

FM ANT

BLK YEL BLU RED RED

WHT

ORG

RED

BLK

(BLK)

CNP3 CNP2 CNP5

RV303 VOLUME

RV304 BALANCE

RV302 TONE

S304 TAPE SELECT

TYPE I (NORM)

TYPE II (CrO2)

S305 REC MUTE ON OFF

CNJ5 RED BLK BLK WHT

※2
R348
US, AEP model: —W—
UK model: —

MEASURED WITH A VTVM
TYPE I : 《4.5V AC》
TYPE II : 《10V AC》

TYPE I : 《0.85V》
TYPE II : 《0.95V》

TYPE I : 《3.2V》
TYPE II : 《4.8V》

TYPE I : 《0.2V》
TYPE II : 《0.3V》

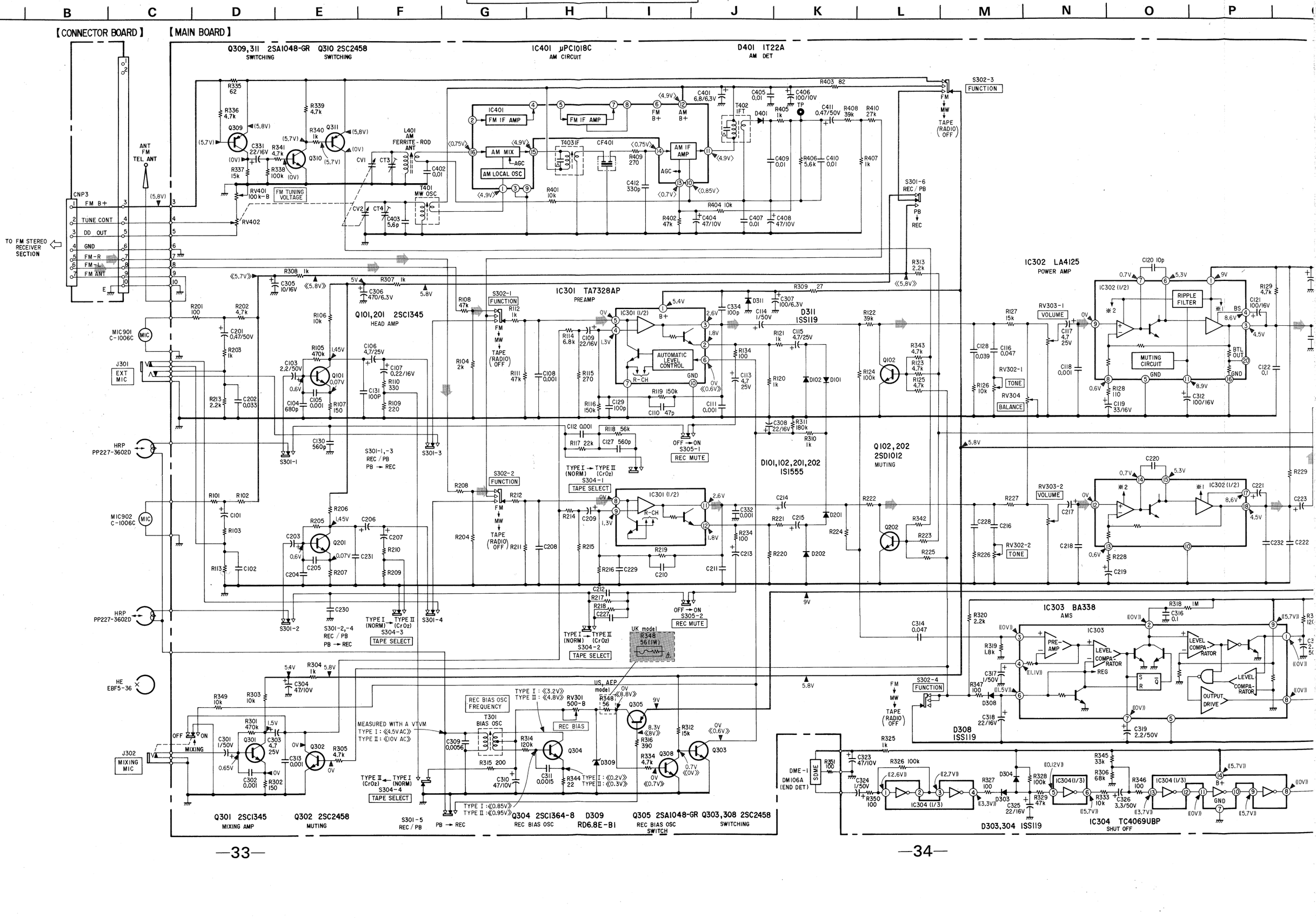
S301 REC/PB

S302, 303 FUNCTION F.M MW TAPE (RADIO OFF)

13

IC・Q	
IC303 306 IC304 IC302 304 305 309 310 311 101 201 202 102 IC301 303 308 IC401	IC・Q
307 303 310 301 302 304 308 309 202 201 101,102 311 401	D

4-4. SCHEMATIC DIAGRAM — Radio Cassette Section —

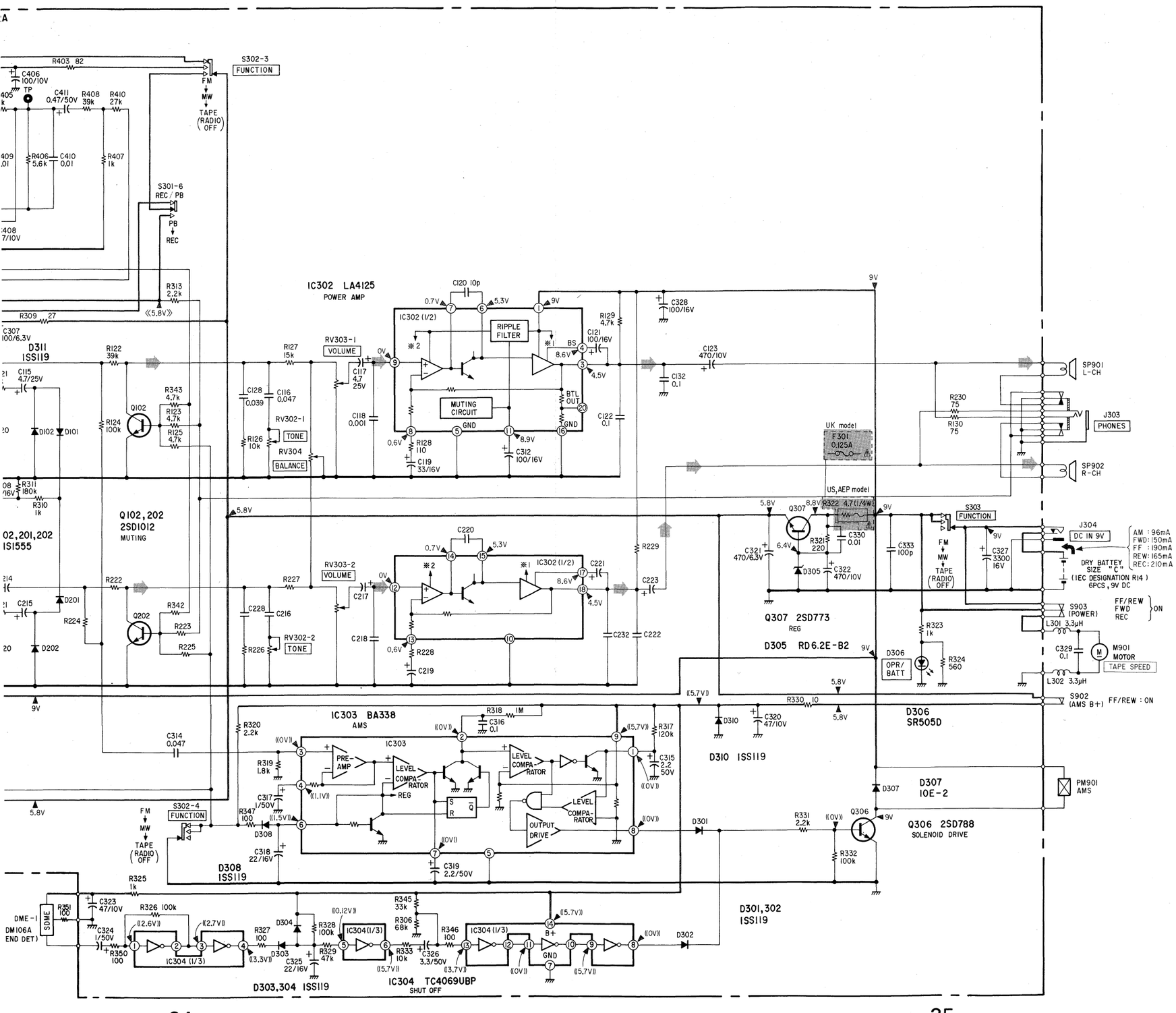


4-4. SCHEMATIC DIAGRAM — Radio Cassette Section —

【CONNECTOR BOARD】 【MAIN BOARD】

Q309,311 2SA1048-GR SWITCHING
Q310 2SC2458 SWITCHING
IC401 μPC1018C AM CIRCUIT
D401 1T22A AM DET
IC302 LA4125 POWER AMP
IC301 TA7328AP PREAMP
Q101,201 2SC1345 HEAD AMP
Q301 2SC1345 MIXING AMP
Q302 2SC2458 MUTING
Q304 2SC1364-B REC BIAS OSC
D309 RD6.8E-B1
Q305 2SA1048-GR REC BIAS OSC SWITCH
Q303,308 2SC2458 SWITCHING
Q102,202 2SD1012 MUTING
D101,102,201,202 1S1555
D311 1SS119
D308 1SS119
D303,304 1SS119
IC303 BA338 AMS
IC304 TC4069UBP SHUT OFF

TO FM STEREO RECEIVER SECTION
CNP3 FM B+ / TUNE CONT / DD OUT / GND / FM-R / FM-L / FM ANT / E
ANT FM TEL ANT
FM TUNING VOLTAGE
RV401 100k-B
RV402
L401 AM FERRITE-ROD ANT
T401 MW OSC
T402 IFT
T403 IF
CF401
S301-1 REC / PB PB → REC
S301-2 REC / PB PB → REC
S301-3 REC / PB PB → REC
S301-4 REC / PB PB → REC
S301-5 REC / PB PB → REC
S301-6 REC / PB
S302-1 FUNCTION
S302-2 FUNCTION
S302-3 FUNCTION
S302-4 FUNCTION
FM → MW → TAPE (RADIO) OFF
S303 REC BIAS OSC FREQUENCY
S304-1 TAPE SELECT
S304-2 TAPE SELECT
S304-3 TAPE SELECT
S304-4 TAPE SELECT
TYPE I (NORM) → TYPE II (CrO2)
S305-1 REC MUTE
S305-2 REC MUTE
OFF → ON
UK model R348 56(1W)
US, AEP model R348 56
MIC901 C-1006C
MIC902 C-1006C
HRP PP227-3602D
HE EBF5-36
J301 EXT MIC
J302 MIXING MIC
MIXING
DME-1 DM106A (END DET)
SDME
RV301-1 VOLUME
RV302-1 TONE
RV303-1 VOLUME
RV302-2 TONE
RV304 BALANCE
RV303-2 VOLUME
IC301 (1/2) B+
IC301 (1/2) R-CH
IC302 (1/2)
IC303
IC304 (1/3)
AUTOMATIC LEVEL CONTROL
MUTING CIRCUIT
RIPPLE FILTER
PRE-AMP
LEVEL COMPARATOR
REG
OUTPUT DRIVE
FM IF AMP
AM MIX
AGC
AM LOCAL OSC
AM IF AMP
FM B+
AM B+
TAPE (RADIO) OFF
MEASURED WITH A VTVM
TYPE I : 《4.5V AC》
TYPE II : 《10V AC》
TYPE I : 《3.2V》
TYPE II : 《4.8V》
TYPE I : 《0.85V》
TYPE II : 《0.95V》
TYPE I : 《0.2V》
TYPE II : 《0.3V》
TYPE I : 《0.4V》
TYPE II : 《0.7V》
TYPE I : 《8.8V》
TYPE II : 《8V》
TYPE I : 《2.6V》
TYPE II : 《2.7V》
TYPE I : 《3.3V》
TYPE II : 《3.7V》
TYPE I : 《5.7V》
TYPE II : 《5.8V》
TYPE I : 《0.6V》
TYPE II : 《0.7V》
TYPE I : 《8.9V》
TYPE II : 《8.6V》
TYPE I : 《4.5V》
TYPE II : 《4.5V》
TYPE I : 《1.1V》
TYPE II : 《1.5V》
TYPE I : 《12V》
TYPE II : 《12V》
TYPE I : 《3.3V》
TYPE II : 《3.3V》
TYPE I : 《5.7V》
TYPE II : 《5.7V》



Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ⏦: fusible resistor.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——: B+ bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50kΩ/V).
  ( ) : FM
  < > : AM
  (( )) : FF/REW
  ≪ ≫ : REC
  no mark: FWD
- Voltage variations may be noted due to normal production tolerances.

- Switch

Ref. No.	Switch	Position
S301	PB/REC	PB
S302	FUNCTION	FM
S303	FUNCTION	FM
S304	TAPE SELECT	TYPE I (NORM)
S305	REC MUTE	OFF
S902	AMS B+	OFF
S903	POWER	OFF

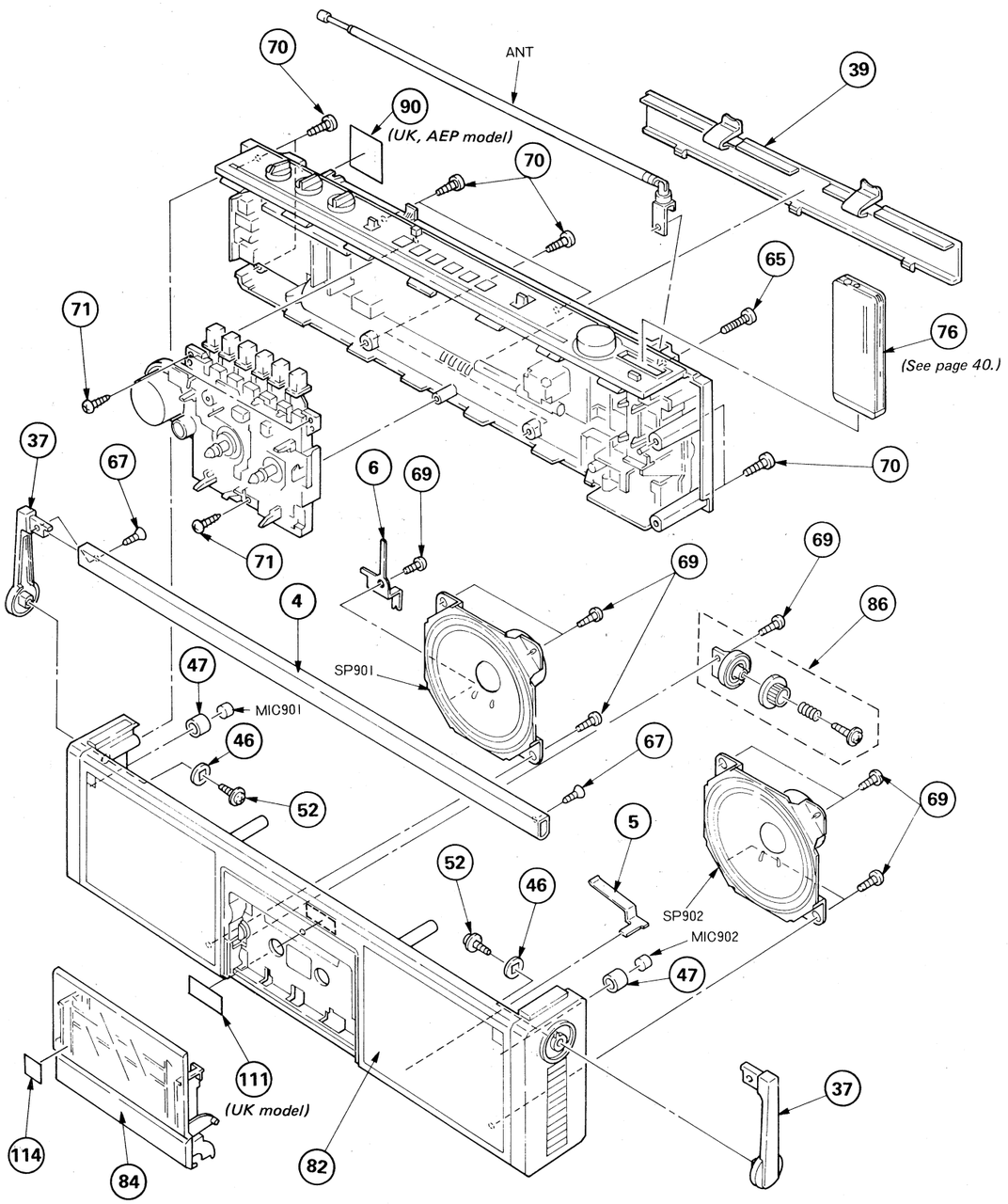
- Mode
  FWD: forward
  FF: fast forward
  REW: rewind
  REC: record
  PB: playback
- ➡ : signal path

Note: Voltages are measured with a VOM (50kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 5
EXPLODED VIEWS AND PARTS LIST

(1)



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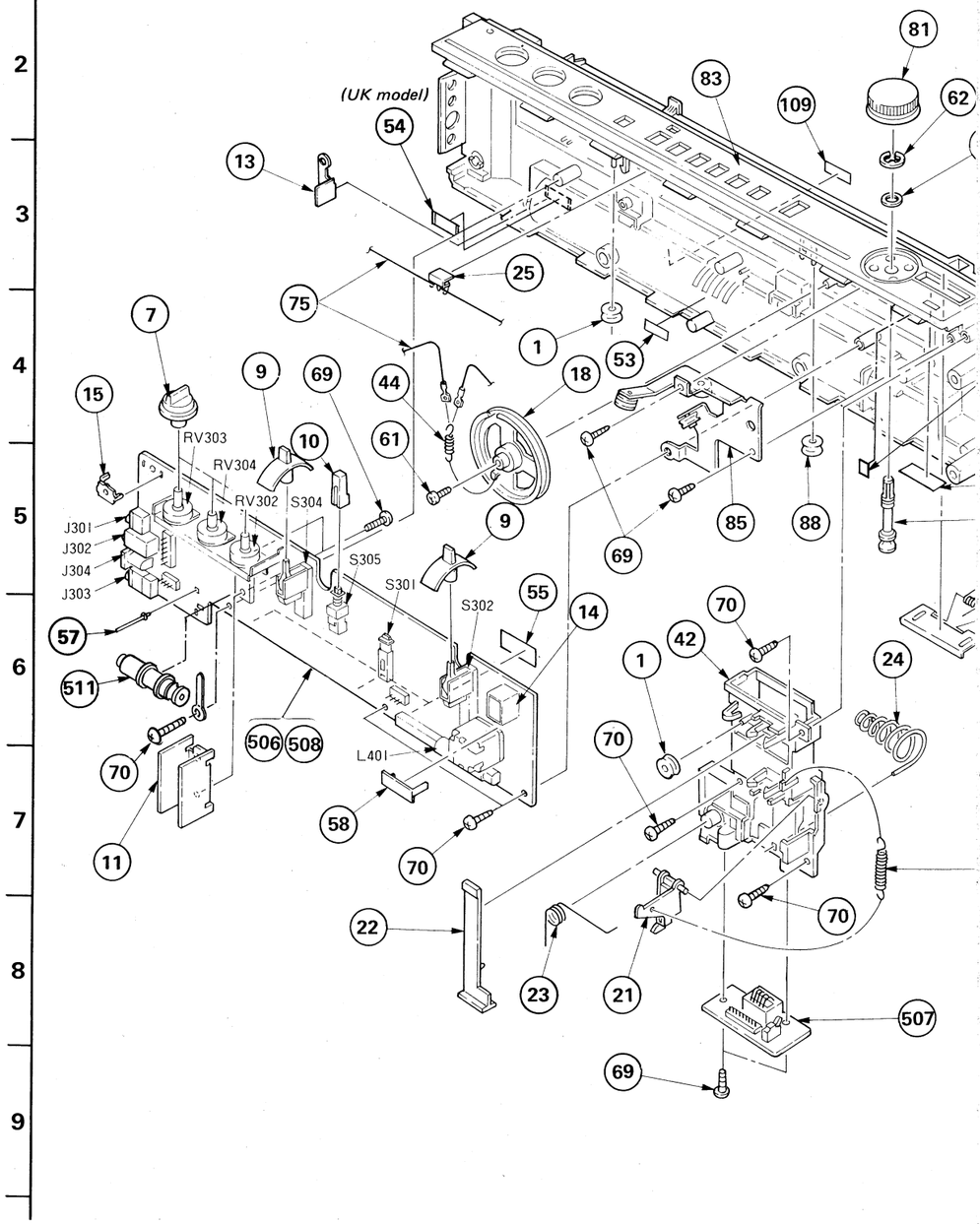
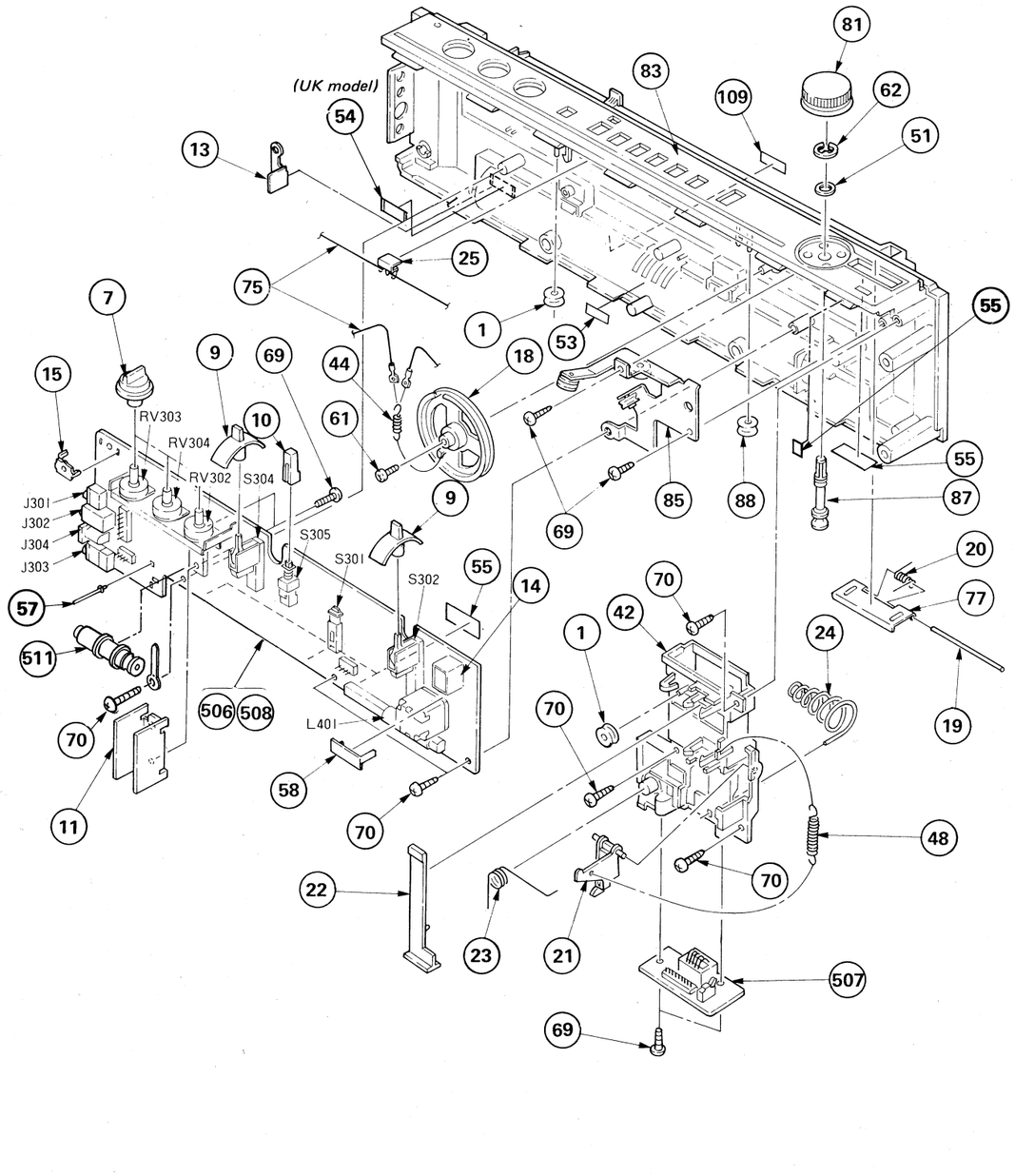
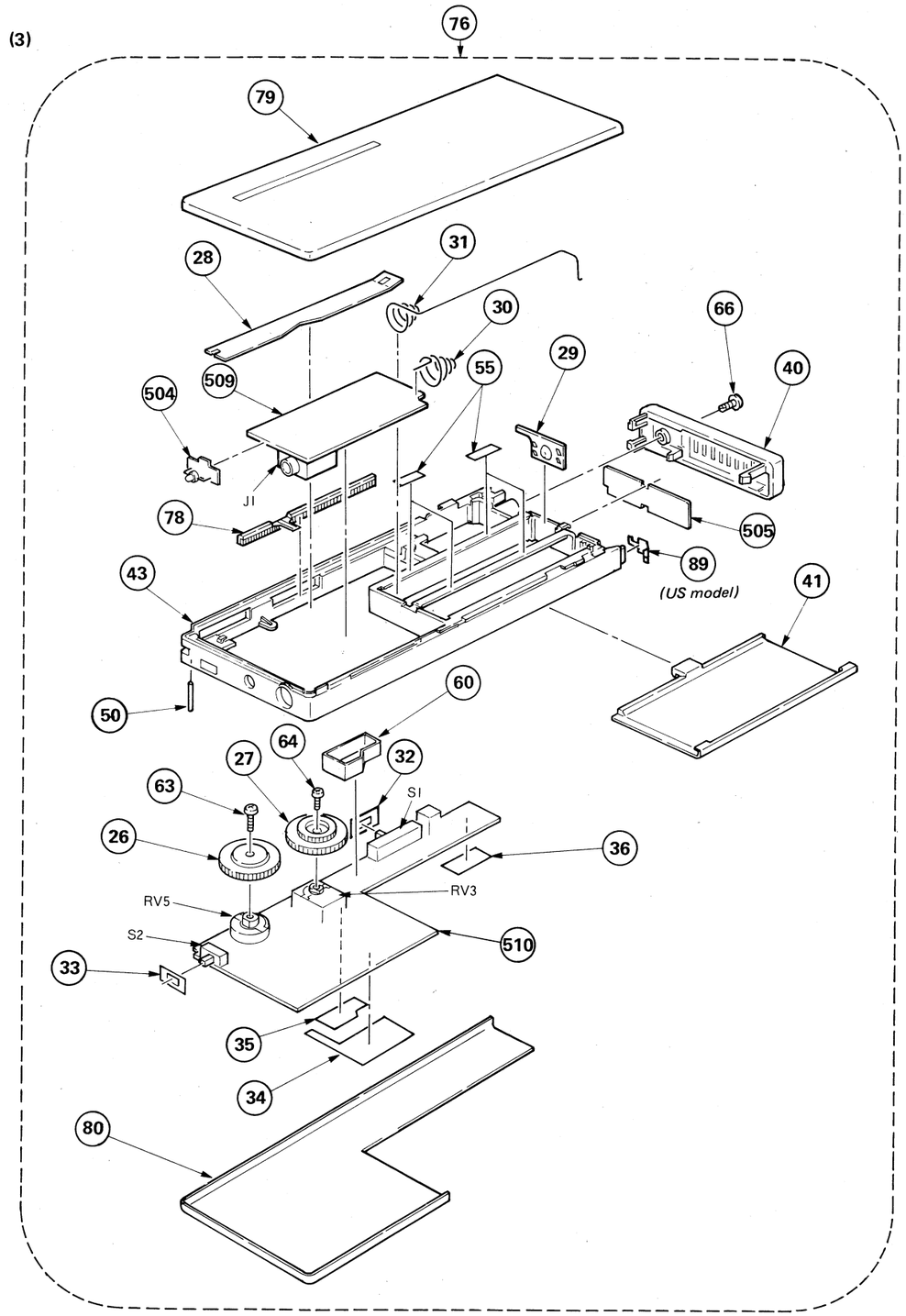


(page 40.)

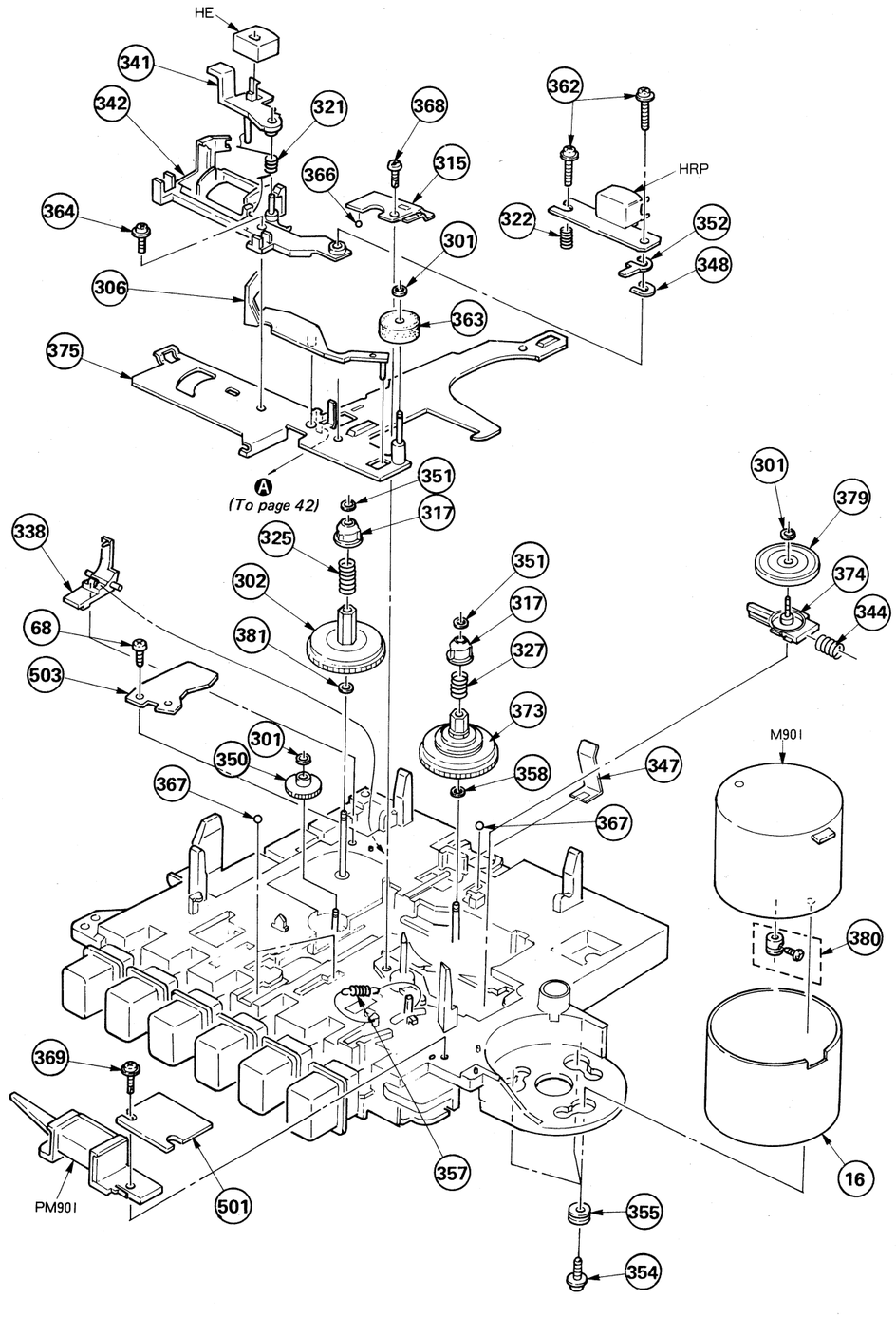
(2)


(UK model)
RV303
RV304
RV302
S304
S305
S301
S302
L401
J301
J302
J304
J303

(3)


(US model)
JI
S1
RV3
RV5
S2

(4)


HE
341
342
321
368
315
366
364
362
HRP
322
352
348
301
306
363
375
351
317
(To page 42)
338
325
302
381
68
503
351
317
327
373
301
350
367
358
347
367
301
379
374
344
M901
380
16
369
PM901
501
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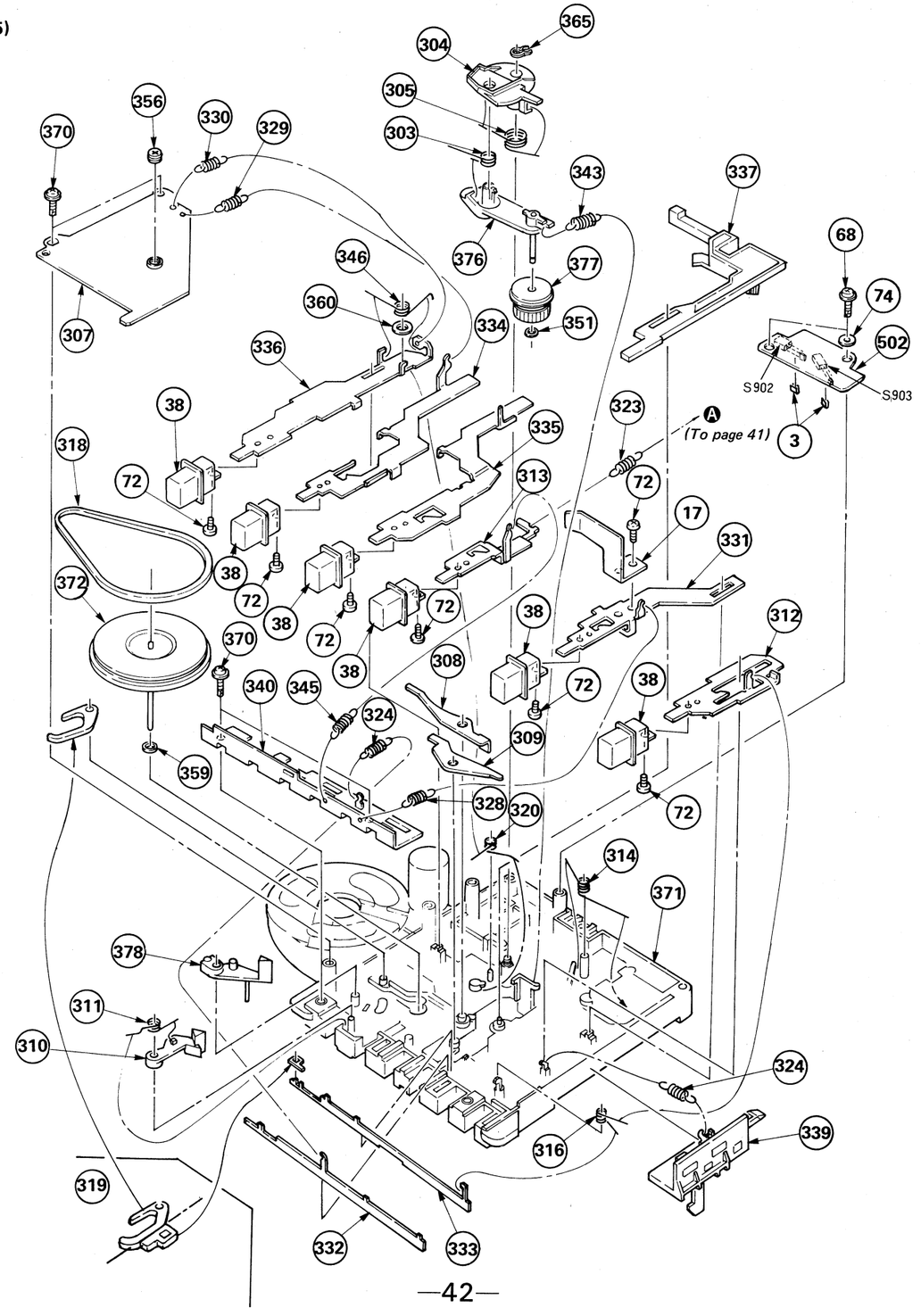
354

(5)


365
304
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346
360
351
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336
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74
502
S902
S903
3
38
318
72
335
323
(To page 41)
313
72
17
331
372
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72
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72
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308
340
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324
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72
314
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332
333

GENERAL SECTION

No.	Part No.	Description
1	3-304-109-00	PULLEY
2	.....	
3	9-911-815-01	CUSHION
4	3-314-117-31	HANDLE
5	3-314-603-00	SPRING
6	3-314-607-00	TERMINAL BOARD (A), GROUND
7	3-314-608-00	KNOB, CONTROL
8	.....	
9	3-314-610-00	KNOB
10	3-314-611-00	BUTTON, REC MUTE
11 ♦	3-314-612-00	HEAT SINK
12	.....	
13	3-314-614-00	TERMINAL BOARD, BATTERY
14 ♦	3-314-615-00	PLATE, SHIELD
15 ♦	3-314-616-00	TERMINAL BOARD (B), GROUND
16	3-314-618-00	PLATE, SHIELD, MOTOR
17	3-314-619-00	SPRING
18	3-314-624-00	DRUM, DIAL
19 ♦	3-314-629-00	SHAFT
20	3-314-630-00	SPRING, TORSION
21 ♦	3-314-631-00	ARM, RADIO LOCK
22	3-314-632-00	BUTTON, RELEASE
23	3-314-633-00	SPRING, TORSION
24	3-314-634-00	SPRING
25	3-314-635-00	POINTER
26	3-314-638-00	KNOB (R), CONTROL
27	3-314-639-00	KNOB (R), TUNING
28 ♦	3-314-641-00	PLATE, BACK
29	3-314-643-00	TERMINAL BOARD (R), BATTERY
30	3-314-644-00	SPRING (R) (A)
31	3-314-645-00	SPRING (R) (B)
32 ♦	3-314-649-00	COVER (A), SWITCH
33 ♦	3-314-650-00	COVER (B), SWITCH
34	3-314-651-00	PLATE (A), SHIELD
35	3-314-652-00	PLATE (B), SHIELD
36	3-314-653-00	PLATE (C), SHIELD
37	3-314-657-00	PLATE, SIDE, HANDLE
38	3-314-658-00	BUTTON, MD
39	3-314-660-11	LID, BATTERY CASE
40	3-314-661-00	CABINET (BOTTOM)
41	3-314-662-00	LID (R), BATTERY CASE
42	3-314-666-00	HOLDER, RADIO
43	3-314-672-01	(AEP,UK)...CHASSIS (R)
43	3-314-672-11	(US).....CHASSIS (R)
44	3-465-159-XX	SPRING, TENSION
45	.....	

GENERAL SECTION

No.	Part No.	Description
46	3-552-410-00	WASHER
47	3-572-119-00	CUSHION, MICROPHONE
48	4-812-499-XX	SPRING (A), ANTENNA SWITCH
49	.....	
50	3-669-481-06	PIN (DIA.1X6), PARALLEL
51	3-701-445-21	WASHER, 7
52	3-703-135-00	SCREW, TAPPING
53	3-701-030-00	LABEL, SERIAL NUMBER
54	3-701-948-06	(UK)...LABEL, FUSE
55	3-831-441-XX	CUSHION
56	.....	
57 ♦	3-847-723-00	PIN, LEAD
58 ♦	3-884-935-00	PLATE (A), SHIELD
59	.....	
60 ♦	3-314-680-00	PLATE (E), SHIELD
61	7-621-255-35	SCREW +P 2X5
62	7-624-109-04	STOP RING 5.0, TYPE -E
63	7-627-551-68	SCREW, PRECISION +P 1.4X3.5
64	7-627-552-78	SCREW, PRECISION +P 1.7X3.5
65	7-682-551-04	SCREW +B 3X14
66	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT
67	7-685-346-24	SCREW +RKTP 3X8 TYPE2 SLIT
68	7-685-533-11	SCREW +BTP 2.6X6 TYPE2 N-S
69	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S
70	7-685-648-11	SCREW +BVTP 3X12 TYPE2 N-S
71	7-685-649-14	SCREW +BVTP 3X14 TYPE2 N-S
72	7-685-791-01	SCREW +PTT 2.6X5 (S)
73	.....	
74	7-688-003-11	W 3, MIDDLE
75	9-911-825-42	STRING, DIAL
76 ♦	A-3211-099-A	(US)....PACK ASSY, FM TUNER
76 ♦	A-3211-101-A	(UK)....PACK ASSY, FM TUNER
76 ♦	A-3211-103-A	(AEP)...PACK ASSY, FM TUNER
77	A-3239-096-A	LID ASSY
78	A-3239-097-A	POINTER (R) ASSY
79	A-3243-100-A	PANEL ASSY, FRONT
80	A-3243-101-A	(US)....PANEL ASSY, REAR
80	A-3243-111-A	(UK)....PANEL ASSY, REAR
80	A-3243-112-A	(AEP)...PANEL ASSY, REAR
81	A-3251-057-A	KNOB ASSY, TUNING
82	X-3314-607-1	CABINET (FRONT) ASSY
83	X-3314-605-1	(US)....CABINET (REAR) SUB ASSY
83	X-3314-610-1	(AEP)...CABINET (REAR) SUB ASSY
83	X-3314-611-1	(UK)....CABINET (REAR) SUB ASSY
84	X-3314-604-1	HOLDER ASSY, CASSETTE
85 ♦	X-3314-601-0	BRACKET ASSY, PULLEY

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

GENERAL SECTIONL

No.	Part No.	Description
86	X-3572-101-0	EJECT ASSY, SOFT
87	3-314-625-00	SHAFT, TUNING
88	3-817-114-00	PULLEY P8
89 ♦	3-314-681-00	(US)...PLATE (T), SHIELD
90	3-314-682-00	(UK)....LABEL, MODEL NUMBER (UK)
90	3-314-683-00	(AEP)...LABEL, MODEL NUMBER (AEP)

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
101 ⚠	1-463-431-00	(UK)....ADAPTOR, AC (AC-230A)
101 ⚠	1-463-432-00	(AEP)...ADAPTOR, AC (AC-230A)
101 ⚠	1-463-487-00	(US)....ADAPTOR, AC (AC-190)
102	.....	
103	3-314-673-00	SHEET, PROTECTION, TUNER PACK
104	3-314-674-00	SHEET, PROTECTION, ADAPTER
105	3-314-684-00	(UK).....SLEEVE, ADAPTOR
105	3-314-675-00	(US,AEP)...SLEEVE, ADAPTER
106	3-314-676-00	INDIVIDUAL CARTON
107	3-314-677-00	CUSHION (LEFT)
108	3-314-678-00	CUSHION (RIGHT)
109	3-527-213-00	(AEP,UK)....LABEL, SERIAL NUMBER
109	3-701-999-00	(US).....LABEL, SERIAL NUMBER
110	3-533-397-00	BAG, POLYETHYLENE
111	3-701-690-00	(UK)....LABEL (MADE IN JAPAN)
112	.....	
113	3-701-632-00	BAG, POLYETHYLENE
114	3-703-707-01	STICKER, SONY SYMBOL (21)
115	3-773-487-11	(AEP,UK)....MANUAL, INSTRUCTION
115	3-773-487-21	(US).....MANUAL, INSTRUCTION
115	3-773-487-41	(AEP).....MANUAL, INSTRUCTION
116	3-793-828-11	QUESTIONNAIRE
117	8-951-168-90	MDR-E232 SET
118	1-528-065-00	BATTERY, MANGANESE (UM-4)

MECHANISM SECTION

No.	Part No.	Description
301	3-307-948-01	WASHER, NYLON
302	3-313-305-00	TABLE, REEL, SUPPLY
303	3-313-313-00	SPRING
304	3-313-314-00	LEVER (SI), FR
305	3-313-315-00	SPRING
306	3-313-316-00	PULLEY
307 ♦	3-313-319-00	RETAINER, FLY
308 ♦	3-313-320-00	LEVER, RCP
309 ♦	3-313-321-00	LEVER, PREVENTION, RFR
310	3-313-322-00	LEVER (A), S.OFF
311	3-313-323-00	SPRING
312 ♦	3-313-325-00	LEVER, STOP BUTTON
313 ♦	3-313-326-00	LEVER, FWD BUTTON
314	3-313-327-00	SPRING
315	3-313-328-00	SPRING
316	3-313-331-00	SPRING
317	3-313-333-00	CLAW, REEL
318	3-313-335-00	BELT, CAPSTAN
319 ♦	3-313-337-00	CHIP, JOINT, S.OFF
320	3-313-338-00	SPRING
321	3-313-339-00	SPRING
322	3-313-340-00	SPRING, COMPRESSION
323	3-313-342-00	SPRING, TENSION
324	3-313-343-00	SPRING, TENSION
325	3-313-344-00	SPRING, COMPRESSION
326	.....	
327	3-313-345-00	SPRING, COMPRESSION
328	3-313-346-00	SPRING, TENSION
329	3-313-348-00	SPRING, TENSION
330	3-313-349-00	SPRING, TENSION
331	3-313-350-00	LEVER, REC BUTTON
332 ♦	3-313-351-00	PLATE (A), LOCK
333 ♦	3-313-352-00	PLATE (B), LOCK
334 ♦	3-313-353-00	LEVER, FF BUTTON
335 ♦	3-313-354-00	LEVER, REW BUTTON
336 ♦	3-313-355-00	LEVER, PAUSE BUTTON
337	3-313-356-00	BRAKE
338	3-313-357-00	CLAW, REC PREVENTION
339	3-313-358-00	CLAW, EJECT
340 ♦	3-313-359-00	RETAINER, LEVER
341	3-313-361-00	ARM, ERASE HEAD
342	3-313-362-00	BRACKET, HEAD
343	3-313-365-00	SPRING, TENSION
344	3-313-366-00	SPRING, COMPRESSION
345	3-313-369-00	SPRING, TENSION

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- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
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- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

MECHANISM SECTION

No.	Part No.	Description
346	3-313-901-00	SPRING
347	3-313-902-00	SPRING
348	3-513-237-01	PLATE
349	.....	
350	3-558-620-11	GEAR, REWIND
351	3-558-708-01	WASHER, STOPPER
352	3-558-737-11	SHIM, RP HEAD
352	3-558-737-21	SHIM, RP HEAD
353	.....	
354	3-570-027-00	SCREW, MOTOR
355	3-570-118-00	CUSHION, MOTOR
356	3-570-205-00	SCREW, THRUST
357	3-573-468-00	SPRING, TENSION
358	3-701-437-11	WASHER
381	3-701-437-21	WASHER
359	3-701-438-21	WASHER
360	3-701-440-21	WASHER, 3.5
361	.....	
362	3-701-465-00	SCREW, LOCK
363	3-703-597-41	PINCH ROLLER, STANDARD
364	7-621-955-35	SCREW, TOTSU PWH 2X5
365	7-624-193-08	STOP RING 3, GRIP
366	7-671-111-01	STEEL BALL 1MM
367	7-671-112-11	BALL, STEEL
368	7-687-134-21	SCREW, TOTSU PTP 2.6X8 TYPE2
369	7-687-205-11	TOTSU PTPWH 2X8, TYPE2, SLIT
370	7-687-234-21	SCREW, TOTSU PTPWH 2.6X8, TYPE2
371	A-3102-051-A	CHASSIS ASSY, MECHANICAL
372	A-3109-021-A	FLYWHEEL ASSY
373	A-3130-031-A	TABLE ASSY, REEL, TAKE-UP
374	X-3313-301-0	BRACKET ASSY, T PULLEY
375	X-3313-303-0	CHASSIS ASSY, HEAD
376	X-3313-304-0	ARM ASSY, REW
377	X-3313-305-0	IDLER ASSY, FR
378	X-3313-306-0	LEVER (B) ASSY, SHUT-OFF
379	X-3313-307-0	PULLEY ASSY, FWD
380	X-3313-308-1	PULLEY ASSY, MOTOR
381	3-701-437-21	WASHER

ELECTRICAL PARTS

Ref.No.	Part No.	Description		
♦501	1-602-735-00	PC BOARD		
♦502	1-609-703-00	PC BOARD, LEAF SWITCH		
♦503	1-609-704-00	PC BOARD, SDME		
♦504	1-610-269-00	PC BOARD, LED		
505	1-610-271-00	PC BOARD, CONTACT TERMINAL		
♦506	1-610-349-00	PC BOARD, MAIN		
♦507	1-610-435-00	PC BOARD, CONNECTOR		
♦508	A-3260-185-A	(US,AEP)...MOUNTED PCB, MAIN		
♦508	A-3260-199-A	(UK).....MOUNTED PCB, MAIN		
♦509	1-610-270-00	PC BOARD, HEADPHONE		
♦510	A-3266-201-A	(US).....MOUNTED PCB, RADIO		
♦510	A-3266-221-A	(AEP,UK)....MOUNTED PCB, RADIO		
511	1-533-102-XX	(UK).....HOLDER, FUSE		
ANT	1-501-262-21	ANTENNA, TELESCOPIC		
C1	1-163-025-00	CERAMIC CHIP 0.001MF		50V
C2	1-163-118-00	CERAMIC CHIP 110PF	5%	50V
C3	1-163-108-00	CERAMIC CHIP 43PF	5%	50V
C4	1-163-003-00	CERAMIC CHIP 330PF	10%	50V
C5	1-163-025-00	CERAMIC CHIP 0.001MF		50V
C6	1-163-088-00	CERAMIC CHIP 5PF	0.25PF	50V
C7	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C8	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C9	1-162-004-00	CERAMIC 1.8PF	20%	50V
C10	1-163-065-00	CERAMIC CHIP 0.001MF		50V
C11	1-163-084-00	CERAMIC CHIP 1.5PF	0.25PF	50V
C12	1-163-025-00	CERAMIC CHIP 0.001MF		50V
C13	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C14	1-163-025-00	CERAMIC CHIP 0.001MF		50V
C15	1-161-013-00	CERAMIC 0.01MF	10%	25V
C16	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C17	1-161-013-00	CERAMIC 0.01MF	10%	25V
C18	1-124-435-00	ELECT 10MF	20%	6.3V
C19	1-163-001-00	CERAMIC CHIP 220PF	10%	50V
C20	1-124-437-00	ELECT 2.2MF	20%	35V
C21	1-124-438-00	ELECT 1MF	20%	50V
C22	1-163-024-00	CERAMIC CHIP 0.018MF	10%	50V
C23	1-124-438-00	ELECT 1MF	20%	50V
C24	1-163-024-00	CERAMIC CHIP 0.018MF	10%	50V
C25	1-163-063-00	(US)...CERAMIC CHIP 0.022MF	10%	50V
C25	1-163-073-00	(AEP,UK)...CERAMIC CHIP 0.022MF		50V
C26	1-124-438-00	ELECT 1MF	20%	50V
C27	1-124-436-00	ELECT 3.3MF	20%	25V
C28	1-124-438-00	ELECT 1MF	20%	50V
C29	1-163-569-00	CERAMIC CHIP 0.001MF	5%	50V
C30	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C31	1-124-433-00	ELECT 100MF	20%	4V
C32	1-161-013-00	CERAMIC 0.01MF	10%	25V

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- All resistors are in ohms.
- F : nonflammable

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- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description		
C33	1-124-435-00	ELECT 10MF	20%	6.3V
C34	1-131-404-00	TANTALUM 0.22MF	20%	35V
C35	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C36	1-163-582-00	CERAMIC CHIP 10PF	5%	50V
C37	1-163-579-00	CERAMIC CHIP 7PF	0.25PF	50V
C38	1-163-025-00	CERAMIC CHIP 0.001MF		50V
C39	1-124-436-00	ELECT 3.3MF	20%	25V
C40	1-131-412-00	TANTALUM 0.47MF	20%	20V
C41	1-131-420-00	TANTALUM 4.7MF	20%	10V
C42	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C43	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C44	1-124-431-00	ELECT 33MF	20%	4V
C45	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C46	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C47	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C48	1-163-025-00	CERAMIC CHIP 0.001MF		50V
C49	1-163-025-00	CERAMIC CHIP 0.001MF		50V
C50	1-131-418-00	TANTALUM 1MF	20%	10V
C51	1-124-432-00	ELECT 47MF	20%	4V
C52	1-124-430-00	ELECT 22MF	20%	4V
C53	1-124-435-00	ELECT 10MF	20%	6.3V
C54	1-124-430-00	ELECT 22MF	20%	4V
C55	1-131-412-00	TANTALUM 0.47MF	20%	20V
C56	1-131-412-00	TANTALUM 0.47MF	20%	20V
C57	1-124-434-00	ELECT 220MF	20%	4V
C58	1-131-391-00	TANTALUM 22MF	20%	3.15V
C59	1-124-438-00	ELECT 1MF	20%	50V
C61	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C62	1-124-433-00	ELECT 100MF	20%	4V
C63	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C64	1-163-025-00	CERAMIC CHIP 0.001MF		50V
C65	1-163-031-00	CERAMIC CHIP 0.01MF		50V
C68	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C69	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C101	1-123-351-00	ELECT 0.47MF	20%	50V
C102	1-161-019-00	CERAMIC 0.033MF	10%	25V
C103	1-123-612-00	ELECT 2.2MF	20%	50V
C104	1-102-116-00	CERAMIC 680PF	10%	50V
C105	1-101-001-00	CERAMIC 0.001MF		50V
C106	1-123-616-00	ELECT 4.7MF	20%	25V
C107	1-131-398-00	ELECT(SOLID) 0.22MF	10%	16V
C108	1-101-001-00	CERAMIC 0.001MF		50V
C109	1-123-317-00	ELECT 22MF	20%	16V
C110	1-101-880-00	CERAMIC 47PF	5%	50V
C111	1-102-074-00	CERAMIC 0.001MF	10%	50V

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ELECTRICAL PARTS

Ref.No.	Part No.	Description		
C112	1-161-039-00	CERAMIC 0.001MF	10%	25V
C113	1-123-616-00	ELECT 4.7MF	20%	25V
C114	1-123-611-00	ELECT 1MF	20%	50V
C115	1-123-328-00	ELECT 4.7MF	20%	25V
C116	1-161-021-00	CERAMIC 0.047MF	10%	25V
C117	1-123-328-00	ELECT 4.7MF	20%	25V
C118	1-101-001-00	CERAMIC 0.001MF		50V
C119	1-123-318-00	ELECT 33MF	20%	16V
C120	1-102-947-00	CERAMIC 10PF	5%	50V
C121	1-123-320-00	ELECT 100MF	20%	16V
C122	1-161-773-00	CERAMIC 0.1MF	20%	25V
C123	1-123-310-00	ELECT 470MF	20%	10V
C127	1-102-115-00	CERAMIC 560PF	10%	50V
C128	1-161-020-00	CERAMIC 0.039MF	10%	25V
C129	1-102-975-00	CERAMIC 100PF	10%	50V
C129	1-162-037-00	CERAMIC 100PF	5%	50V
C130	1-102-115-00	CERAMIC 560PF	10%	50V
C131	1-102-975-00	CERAMIC 100PF	10%	50V
C132	1-161-773-00	CERAMIC 0.1MF	20%	25V
C201	1-123-351-00	ELECT 0.47MF	20%	50V
C202	1-161-019-00	CERAMIC 0.033MF	10%	25V
C203	1-123-612-00	ELECT 2.2MF	20%	50V
C204	1-102-116-00	CERAMIC 680PF	10%	50V
C205	1-101-001-00	CERAMIC 0.001MF		50V
C206	1-123-616-00	ELECT 4.7MF	20%	25V
C207	1-131-398-00	ELECT(SOLID) 0.22MF	10%	16V
C208	1-101-001-00	CERAMIC 0.001MF		50V
C209	1-123-622-00	ELECT 22MF	20%	16V
C210	1-101-880-00	CERAMIC 47PF	5%	50V
C211	1-101-001-00	CERAMIC 0.001MF		50V
C212	1-161-039-00	CERAMIC 0.001MF	10%	25V
C213	1-123-616-00	ELECT 4.7MF	20%	25V
C214	1-123-380-00	ELECT 1MF	20%	50V
C215	1-123-616-00	ELECT 4.7MF	20%	25V
C216	1-161-021-00	CERAMIC 0.047MF	10%	25V
C217	1-123-328-00	ELECT 4.7MF	20%	25V
C218	1-101-001-00	CERAMIC 0.001MF		50V
C219	1-123-318-00	ELECT 33MF	20%	16V
C220	1-102-947-00	CERAMIC 10PF	5%	50V
C221	1-123-320-00	ELECT 100MF	20%	16V
C222	1-161-773-00	CERAMIC 0.1MF	20%	25V
C223	1-123-310-00	ELECT 470MF	20%	10V
C227	1-102-115-00	CERAMIC 560PF	10%	50V
C228	1-161-020-00	CERAMIC 0.039MF	10%	25V
C229	1-102-975-00	CERAMIC 100PF	10%	50V
C230	1-102-115-00	CERAMIC 560PF	10%	50V

CFS-FM7

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C231	1-102-975-00	CERAMIC	100PF	10%	50V
C232	1-161-773-00	CERAMIC	0.1MF	20%	25V
C301	1-123-380-00	ELECT	1MF	20%	50V
C302	1-101-001-00	CERAMIC	0.001MF		50V
C303	1-123-328-00	ELECT	4.7MF	20%	25V
C304	1-123-822-00	ELECT	47MF	20%	10V
C305	1-123-356-00	ELECT	10MF	20%	16V
C306	1-123-298-00	ELECT	470MF	20%	6.3V
C307	1-123-295-00	ELECT	100MF	20%	6.3V
C308	1-123-622-00	ELECT	22MF	20%	16V
C309	1-108-573-00	MYLAR	0.0056MF	5%	50V
C310	1-123-306-00	ELECT	47MF	20%	10V
C311	1-161-003-00	CERAMIC	0.0015MF	10%	25V
C312	1-123-320-00	ELECT	100MF	20%	16V
C313	1-101-001-00	CERAMIC	0.001MF		50V
C314	1-161-021-00	CERAMIC	0.047MF	10%	25V
C315	1-123-353-00	ELECT	2.2MF	20%	50V
C316	1-108-603-00	MYLAR	0.1MF	5%	50V
C317	1-123-380-00	ELECT	1MF	20%	50V
C318	1-123-317-00	ELECT	22MF	20%	16V
C319	1-123-353-00	ELECT	2.2MF	20%	50V
C320	1-123-306-00	ELECT	47MF	20%	10V
C321	1-123-298-00	ELECT	470MF	20%	6.3V
C322	1-123-310-00	ELECT	470MF	20%	10V
C323	1-123-306-00	ELECT	47MF	20%	10V
C324	1-123-380-00	ELECT	1MF	20%	50V
C325	1-123-317-00	ELECT	22MF	20%	16V
C326	1-123-354-00	ELECT	3.3MF	20%	50V
C327	1-123-326-00	ELECT	3300MF	20%	16V
C328	1-123-320-00	ELECT	100MF	20%	16V
C329	1-161-773-00	CERAMIC	0.1MF	20%	25V
C330	1-101-004-00	CERAMIC	0.01MF		50V
C331	1-123-622-00	ELECT	22MF	20%	16V
C332	1-101-001-00	CERAMIC	0.001MF		50V
C333	1-102-975-00	CERAMIC	100PF	10%	50V
C334	1-102-975-00	CERAMIC	100PF	10%	50V
C401	1-131-423-00	TANTALUM	6.8MF	20%	6.3V
C402	1-161-330-00	CERAMIC	0.01MF	30%	25V
C403	1-161-276-00	CERAMIC	5.6PF	10%	50V
C404	1-123-306-00	ELECT	47MF	20%	10V
C405	1-101-004-00	CERAMIC	0.01MF		50V
C406	1-123-307-00	ELECT	100MF	20%	10V
C407	1-101-004-00	CERAMIC	0.01MF		50V
C408	1-123-306-00	ELECT	47MF	20%	10V
C409	1-101-004-00	CERAMIC	0.01MF		50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C410	1-101-004-00	CERAMIC	0.01MF		50V
C411	1-123-351-00	ELECT	0.47MF	20%	50V
C412	1-102-112-00	CERAMIC	330PF	10%	50V
CF1	1-527-795-71	FILTER, CERAMIC			
CF2	1-527-795-71	FILTER, CERAMIC			
CF401	1-527-870-00	FILTER			
CNJ3	♦;1-561-675-00	SOCKET, CONNECTOR 5P			
CNP1	♦;1-560-635-00	PIN, CONNECTOR 4P			
CNP2	♦;1-560-563-00	PIN, CONNECTOR 10P			
CNP3	♦;1-560-558-00	PIN, CONNECTOR 5P			
CNP4	♦;1-560-563-00	PIN, CONNECTOR 10P			
CNP5	♦;1-560-557-00	PIN, CONNECTOR 4P			
CNP901	1-536-795-00	TERMINAL BOARD			
CT1	1-141-287-00	CAP, TRIMMER (CHIP)			
CT2	1-141-272-00	CAP, TRIMMER			
CT3	1-151-448-00	CAP, VAR, POLYETHYLENE			
CT4	1-151-448-00	CAP, VAR, POLYETHYLENE			
CV1	1-151-448-00	CAP, VAR, POLYETHYLENE			
CV2	1-151-448-00	CAP, VAR, POLYETHYLENE			
D1	8-719-800-41	DIODE 1SV147-S1			
D2	8-719-800-41	DIODE 1SV147-S1			
D3	8-719-101-06	DIODE SR106D			
D4	8-719-815-55	DIODE 1S1555			
D5	8-719-100-44	DIODE RD7.5EB2			
D6	8-719-101-23	DIODE 1SS123			
D101	8-719-815-55	DIODE 1S1555			
D102	8-719-815-55	DIODE 1S1555			
D201	8-719-815-55	DIODE 1S1555			
D202	8-719-815-55	DIODE 1S1555			
D301	8-719-911-19	DIODE 1SS119			
D302	8-719-911-19	DIODE 1SS119			
D303	8-719-911-19	DIODE 1SS119			
D304	8-719-911-19	DIODE 1SS119			
D305	8-719-100-38	DIODE RD6.2EB2			
D306	8-719-150-53	DIODE SR505D			
D307	8-719-200-02	DIODE 10E-2			
D308	8-719-911-19	DIODE 1SS119			
D309	8-719-100-40	DIODE RD6.8EB1			
D310	8-719-911-19	DIODE 1SS119			
D311	8-719-911-19	DIODE 1SS119			
D401	8-719-022-21	DIODE 1T22A			
DME1	8-749-016-01	DM-106A			
F301	⚠1-532-611-00	(UK)....FUSE, TIME-LAG, 0.125A 250V			

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
HE	8-658-096-02	HEAD, ERASE EBF5-36
HRP	8-825-507-60	HEAD (PP227-3602D)
IC1	8-759-902-00	IC TK10701F
IC2	8-759-201-57	IC TA7688F-S
IC301	8-759-273-28	IC TA7328AP
IC302	8-759-841-25	IC LA4125
IC303	8-759-905-47	IC BA338
IC304	8-759-240-69	IC TC4069UBP
IC401	8-759-110-15	IC UPC1018C
J1	1-507-812-00	JACK (HEADPHONES)
J301	1-507-834-21	JACK (EXT MIC)
J302	1-507-643-00	JACK (MIXING MIC)
J303	1-507-806-00	JACK (PHONES)
J304	1-507-459-00	JACK (DC IN 9V)
L1	1-426-128-00	TRANSFORMER, HF
L2	1-459-459-00	COIL (WITH CORE)
L3	1-425-991-00	COIL
L4	1-410-020-00	MICRO INDUCTOR (SMALL TYPE) 8.2UH
L5	1-410-020-00	MICRO INDUCTOR (SMALL TYPE) 8.2UH
L6	1-410-020-00	MICRO INDUCTOR (SMALL TYPE) 8.2UH
L8	1-410-020-00	MICRO INDUCTOR (SMALL TYPE) 8.2UH
L301	1-408-111-00	INDUCTOR, MICRO, 3.3UH
L302	1-408-111-00	INDUCTOR, MICRO, 3.3UH
L401	1-402-034-00	ANTENNA, FERRITE-ROD
M901	1-541-231-00	MOTOR
MIC901	8-814-194-20	MICROPHONE (C-1006C)
MIC902	8-814-194-20	MICROPHONE (C-1006C)
PM901	1-454-255-00	SOLENOID, PLUNGER
Q1	8-729-178-63	TRANSISTOR 2SC2786-K
Q2	8-729-884-02	TRANSISTOR 2SC2840-D
Q3	8-729-178-62	TRANSISTOR 2SC2786-L
Q4	8-729-201-26	TRANSISTOR 2SC2715O
Q6	8-729-245-83	TRANSISTOR 2SC2458
Q7	8-729-204-83	TRANSISTOR 2SA1048-GR
Q8	8-729-245-83	TRANSISTOR 2SC2458
Q101	8-729-334-58	TRANSISTOR 2SC1345
Q102	8-729-811-24	TRANSISTOR 2SD1012
Q201	8-729-334-58	TRANSISTOR 2SC1345
Q202	8-729-811-24	TRANSISTOR 2SD1012
Q301	8-729-334-58	TRANSISTOR 2SC1345
Q302	8-729-245-83	TRANSISTOR 2SC2458
Q303	8-729-245-83	TRANSISTOR 2SC2458
Q304	8-729-663-48	TRANSISTOR 2SC1364-8

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
Q305	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q306	8-729-378-84	TRANSISTOR 2SD788			
Q307	8-729-177-32	TRANSISTOR 2SD773			
Q308	8-729-245-83	TRANSISTOR 2SC2458			
Q309	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q310	8-729-245-83	TRANSISTOR 2SC2458			
Q311	8-729-204-83	TRANSISTOR 2SA1048-GR			
R1	1-216-042-00	METAL CHIP	510	5%	1/10W
R2	1-216-097-00	METAL CHIP	100K	5%	1/10W
R3	1-216-097-00	METAL CHIP	100K	5%	1/10W
R4	1-216-090-91	METAL CHIP	51K	5%	1/10W
R5	1-247-807-00	CARBON	100	5%	1/6W
R6	1-247-807-00	CARBON	100	5%	1/6W
R7	1-216-094-00	METAL CHIP	75K	5%	1/10W
R8	1-216-037-00	METAL CHIP	330	5%	1/10W
R9	1-216-025-00	METAL CHIP	100	5%	1/10W
R10	1-216-025-00	METAL CHIP	100	5%	1/10W
R11	1-216-092-00	METAL CHIP	62K	5%	1/10W
R12	1-216-037-00	METAL CHIP	330	5%	1/10W
R13	1-216-174-91	METAL CHIP	100	5%	1/8W
R14	1-216-020-00	METAL CHIP	62	5%	1/10W
R15	1-216-037-00	METAL CHIP	330	5%	1/10W
R16	1-216-073-00	METAL CHIP	10K	5%	1/10W
R17	1-216-061-00	(US).....METAL CHIP	3.3K	5%	1/10W
R17	1-216-097-00	(AEP,UK)...METAL CHIP	100K	5%	1/10W
R18	1-247-831-00	CARBON	1K	5%	1/6W
R19	1-216-073-00	METAL CHIP	10K	5%	1/10W
R20	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R21	1-216-020-00	METAL CHIP	62	5%	1/10W
R22	1-216-049-00	METAL CHIP	1K	5%	1/10W
R24	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R25	1-216-097-00	METAL CHIP	100K	5%	1/10W
R26	1-216-105-00	METAL CHIP	220K	5%	1/10W
R27	1-216-009-00	METAL CHIP	22	5%	1/10W
R28	1-216-093-00	METAL CHIP	68K	5%	1/10W
R29	1-247-819-00	CARBON	330	5%	1/6W
R30	1-216-097-00	METAL CHIP	100K	5%	1/10W
R31	1-216-045-00	METAL CHIP	680	5%	1/10W
R32	1-216-090-91	METAL CHIP	51K	5%	1/10W
R33	1-216-090-91	METAL CHIP	51K	5%	1/10W
R34	1-216-106-00	METAL CHIP	240K	5%	1/10W
R35	1-216-097-00	METAL CHIP	100K	5%	1/10W
R36	1-216-049-00	METAL CHIP	1K	5%	1/10W
R37	1-216-206-91	METAL CHIP	2.2K	5%	1/8W
R38	1-216-206-91	METAL CHIP	2.2K	5%	1/8W

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CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R39	1-216-049-00	METAL CHIP	1K	5%	1/10W
R40	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R41	1-216-073-00	METAL CHIP	10K	5%	1/10W
R42	1-216-073-00	METAL CHIP	10K	5%	1/10W
R43	1-216-091-00	METAL CHIP	56K	5%	1/10W
R47	1-216-295-00	METAL CHIP	0	5%	1/10W
R49	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R50	1-216-106-00	METAL CHIP	240K	5%	1/10W
R101	1-247-807-00	CARBON	100	5%	1/6W
R102	1-247-847-00	CARBON	4.7K	5%	1/6W
R103	1-247-831-00	CARBON	1K	5%	1/6W
R104	1-247-838-00	CARBON	2K	5%	1/6W
R105	1-247-895-00	CARBON	470K	5%	1/6W
R106	1-247-855-00	CARBON	10K	5%	1/6W
R107	1-247-811-00	CARBON	150	5%	1/6W
R108	1-247-871-00	CARBON	47K	5%	1/6W
R109	1-247-815-00	CARBON	220	5%	1/6W
R110	1-247-819-00	CARBON	330	5%	1/6W
R111	1-247-871-00	CARBON	47K	5%	1/6W
R112	1-247-831-00	CARBON	1K	5%	1/6W
R113	1-247-839-00	CARBON	2.2K	5%	1/6W
R114	1-247-851-00	CARBON	6.8K	5%	1/6W
R115	1-247-817-00	CARBON	270	5%	1/6W
R116	1-247-883-00	CARBON	150K	5%	1/6W
R117	1-247-863-00	CARBON	22K	5%	1/6W
R118	1-247-873-00	CARBON	56K	5%	1/6W
R119	1-247-883-00	CARBON	150K	5%	1/6W
R120	1-247-831-00	CARBON	1K	5%	1/6W
R121	1-247-831-00	CARBON	1K	5%	1/6W
R122	1-247-869-00	CARBON	39K	5%	1/6W
R123	1-247-847-00	CARBON	4.7K	5%	1/6W
R124	1-247-879-00	CARBON	100K	5%	1/6W
R125	1-247-847-00	CARBON	4.7K	5%	1/6W
R126	1-247-855-00	CARBON	10K	5%	1/6W
R127	1-247-859-00	CARBON	15K	5%	1/6W
R128	1-247-808-00	CARBON	110	5%	1/6W
R129	1-247-847-00	CARBON	4.7K	5%	1/6W
R130	1-247-804-00	CARBON	75	5%	1/6W
R134	1-247-807-00	CARBON	100	5%	1/6W
R201	1-247-807-00	CARBON	100	5%	1/6W
R202	1-247-847-00	CARBON	4.7K	5%	1/6W
R203	1-247-831-00	CARBON	1K	5%	1/6W
R204	1-247-838-00	CARBON	2K	5%	1/6W
R205	1-247-895-00	CARBON	470K	5%	1/6W
R206	1-247-855-00	CARBON	10K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R207	1-247-811-00	CARBON	150	5%	1/6W
R208	1-247-871-00	CARBON	47K	5%	1/6W
R209	1-247-815-00	CARBON	220	5%	1/6W
R210	1-247-819-00	CARBON	330	5%	1/6W
R211	1-247-871-00	CARBON	47K	5%	1/6W
R212	1-247-831-00	CARBON	1K	5%	1/6W
R213	1-247-839-00	CARBON	2.2K	5%	1/6W
R214	1-247-851-00	CARBON	6.8K	5%	1/6W
R215	1-247-817-00	CARBON	270	5%	1/6W
R216	1-247-883-00	CARBON	150K	5%	1/6W
R217	1-247-863-00	CARBON	22K	5%	1/6W
R218	1-247-873-00	CARBON	56K	5%	1/6W
R219	1-247-883-00	CARBON	150K	5%	1/6W
R220	1-247-831-00	CARBON	1K	5%	1/6W
R221	1-247-831-00	CARBON	1K	5%	1/6W
R222	1-247-869-00	CARBON	39K	5%	1/6W
R223	1-247-847-00	CARBON	4.7K	5%	1/6W
R224	1-247-879-00	CARBON	100K	5%	1/6W
R225	1-247-847-00	CARBON	4.7K	5%	1/6W
R226	1-247-855-00	CARBON	10K	5%	1/6W
R227	1-247-859-00	CARBON	15K	5%	1/6W
R228	1-247-808-00	CARBON	110	5%	1/6W
R229	1-247-847-00	CARBON	4.7K	5%	1/6W
R230	1-247-804-00	CARBON	75	5%	1/6W
R234	1-247-807-00	CARBON	100	5%	1/6W
R301	1-247-895-00	CARBON	470K	5%	1/6W
R302	1-247-811-00	CARBON	150	5%	1/6W
R303	1-247-855-00	CARBON	10K	5%	1/6W
R304	1-247-831-00	CARBON	1K	5%	1/6W
R305	1-247-847-00	CARBON	4.7K	5%	1/6W
R306	1-247-875-00	CARBON	68K	5%	1/6W
R307	1-247-831-00	CARBON	1K	5%	1/6W
R308	1-247-831-00	CARBON	1K	5%	1/6W
R309	1-247-793-00	CARBON	27	5%	1/6W
R310	1-247-831-00	CARBON	1K	5%	1/6W
R311	1-247-885-00	CARBON	180K	5%	1/6W
R312	1-247-859-00	CARBON	15K	5%	1/6W
R313	1-247-839-00	CARBON	2.2K	5%	1/6W
R314	1-247-881-00	CARBON	120K	5%	1/6W
R315	1-247-814-00	CARBON	200	5%	1/6W
R316	1-247-821-00	CARBON	390	5%	1/6W
R317	1-247-881-00	CARBON	120K	5%	1/6W
R318	1-247-903-00	CARBON	1M	5%	1/6W
R319	1-247-837-00	CARBON	1.8K	5%	1/6W
R320	1-247-839-00	CARBON	2.2K	5%	1/6W

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CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R321	1-247-815-00	CARBON	220	5%	1/6W	
R322 ⚠	1-212-849-00	(US,AEP)...FUSIBLE	4.7	5%	1/4W	F
R323	1-247-831-00	CARBON	1K	5%	1/6W	
R324	1-247-825-00	CARBON	560	5%	1/6W	
R325	1-247-831-00	CARBON	1K	5%	1/6W	
R326	1-247-879-00	CARBON	100K	5%	1/6W	
R327	1-247-807-00	CARBON	100	5%	1/6W	
R328	1-247-879-00	CARBON	100K	5%	1/6W	
R329	1-247-871-00	CARBON	47K	5%	1/6W	
R330	1-247-783-00	CARBON	10	5%	1/6W	
R331	1-247-839-00	CARBON	2.2K	5%	1/6W	
R332	1-247-879-00	CARBON	100K	5%	1/6W	
R333	1-247-855-00	CARBON	10K	5%	1/6W	
R334	1-247-847-00	CARBON	4.7K	5%	1/6W	
R335	1-247-802-00	CARBON	62	5%	1/6W	
R336	1-247-847-00	CARBON	4.7K	5%	1/6W	
R337	1-247-859-00	CARBON	15K	5%	1/6W	
R338	1-247-879-00	CARBON	100K	5%	1/6W	
R339	1-247-847-00	CARBON	4.7K	5%	1/6W	
R340	1-247-831-00	CARBON	1K	5%	1/6W	
R341	1-247-847-00	CARBON	4.7K	5%	1/6W	
R342	1-247-847-00	CARBON	4.7K	5%	1/6W	
R343	1-247-847-00	CARBON	4.7K	5%	1/6W	
R344	1-247-791-00	CARBON	22	5%	1/6W	
R345	1-247-867-00	CARBON	33K	5%	1/6W	
R346	1-247-807-00	CARBON	100	5%	1/6W	
R347	1-247-807-00	CARBON	100	5%	1/6W	
R348 ⚠	1-213-078-00	(UK).....FUSIBLE	56	5%	1W	F
R348	1-247-801-00	(US,AEP)...CARBON	56	5%	1/6W	
R349	1-247-855-00	CARBON	10K	5%	1/6W	
R350	1-247-807-00	CARBON	100	5%	1/6W	
R351	1-247-807-00	CARBON	100	5%	1/6W	
R401	1-247-855-00	CARBON	10K	5%	1/6W	
R402	1-247-871-00	CARBON	47K	5%	1/6W	
R403	1-247-805-00	CARBON	82	5%	1/6W	
R404	1-247-855-00	CARBON	10K	5%	1/6W	
R405	1-247-831-00	CARBON	1K	5%	1/6W	
R406	1-247-849-00	CARBON	5.6K	5%	1/6W	
R407	1-247-831-00	CARBON	1K	5%	1/6W	
R408	1-247-869-00	CARBON	39K	5%	1/6W	
R409	1-247-817-00	CARBON	270	5%	1/6W	
R410	1-247-865-00	CARBON	27K	5%	1/6W	

ELECTRICAL PARTS

Ref.No.	Part No.	Description
RV1	1-226-488-00	RES, ADJ, METAL GLAZE 5K
RV2	1-226-784-00	RES, ADJ, METAL GLAZE 100K
RV3	1-230-195-00	RES, VAR, CARBON 100K (TUNING)
RV4	1-226-784-00	RES, ADJ, METAL GLAZE 100K
RV5	1-230-109-00	RES, VAR, CARBON 20K/20K
RV301	1-226-232-00	RES, ADJ, CARBON 500
RV302	1-230-110-00	RES, VAR, CARBON (BLOCK TYPE)(TONE)
RV303	1-230-110-00	RES, VAR, CARBON (BLOCK TYPE)(VOLUME)
RV304	1-230-110-00	RES, VAR, CARBON (BLOCK TYPE)(BALANCE)
RV401	1-226-239-00	RES, ADJ, CARBON 100K
RV402	1-151-448-00	CAP, VAR, POLYETHYLENE
S1	1-554-515-00	SWITCH, SLIDE
S2	1-554-514-00	SWITCH, SLIDE
S301	1-554-516-00	SWITCH, SLIDE
S302	1-554-518-00	SWITCH, LEVER SLIDE (FUNCTION)
S304	1-554-517-00	SWITCH, LEVER SLIDE (TAPE SELECT)
S305	1-554-491-00	SWITCH, PUSH (1 KEY)
S902	1-554-496-00	SWITCH, LEAF
S903	1-554-495-00	SWITCH, LEAF
SP901	1-503-249-00	SPEAKER
SP902	1-503-249-00	SPEAKER
T1	1-404-399-00	TRANSFORMER, DISCRIMINATOR
T2	1-447-606-00	TRANSFORMER, DC-DC CONVERTER
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR
T401	1-405-685-00	COIL, MW OSCILLATOR
T402	1-404-100-00	COIL, IFT
T403	1-404-341-00	TRANSFORMER, IF

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In each case, U : μ, for example:
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UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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